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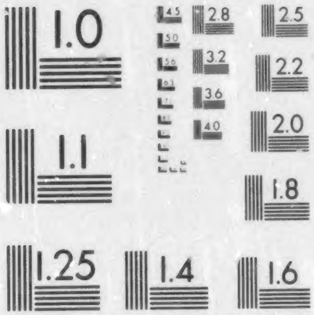
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ABSTRACT

Designed for regular classroom as well as special class teachers, the guide is intended to help implement a differentiated curriculum for gifted and talented students. An overview of a synergistic approach to gifted education is followed by a list of 10 major steps in implementing gifted and talented programs. Each of the steps is then examined in separate chapters: (1) program goals and objectives, (2) identification, (3) administrative arrangements, (4) needs assessment of gifted and talented students, (5) differentiated curriculum (including content, process, and product modifications), (6) instruction in the disciplines (suggestions for language arts, mathematics, social studies, science, fine arts, languages, health and physical education, career education, and practical arts and vocational technical education), (7) unit and lesson planning (examples based on such models as the Enrichment Triad, creative problem solving, and critical thinking), (8) implementation of plans, (9) student products and performances, and (10) evaluation (with recommendations for evaluation instruments). (CL)

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Office of Instructional Services/Special Needs Branch • Department of Education • State of Hawaii
RS 85-7513 • February 1985

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FOREWORD

Gifted and talented education can lead the way for excellence in our schools. It is quality education because it requires the highest levels of teaching skills. The success of the program depends a great deal on the curriculum and instructional decisions made by the teacher and classroom climate that is set for the joy of learning.

This Resource Guide for Gifted and Talented Programs is to help all teachers in using their professional skills. It is the result of much research, thinking, planning, interacting, writing and editing by many committed professionals who understand how much careful planning and expertise are needed to make excellence in the classrooms a reality.

The use of this document will help in implementing a differentiated curriculum to meet the special characteristics and needs of the gifted and talented in special or regular classes, in and out of school. It is a very viable, practical and beneficial guide that all can share.

Francis M. Hatanaka

Francis M. Hatanaka,
Superintendent

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INTRODUCTION

The impact and survival of a gifted and talented program will depend upon its flexibility and adaptability to new and changing conditions as well as on its stability in adhering to the purpose for which it was originally planned.

Available for use are A State Plan for Providing Appropriate Educational Opportunities for the Gifted and Talented which provides a general outline of plans for gifted and talented education and Hawaii State Guidelines and Procedures for Gifted and Talented Education which provides guidelines and procedures for the identification and provision of appropriate educational opportunities for the gifted and talented in the public schools of Hawaii.

To assist educators in creating defensible, differentiated programs for the gifted and talented, this resource guide:

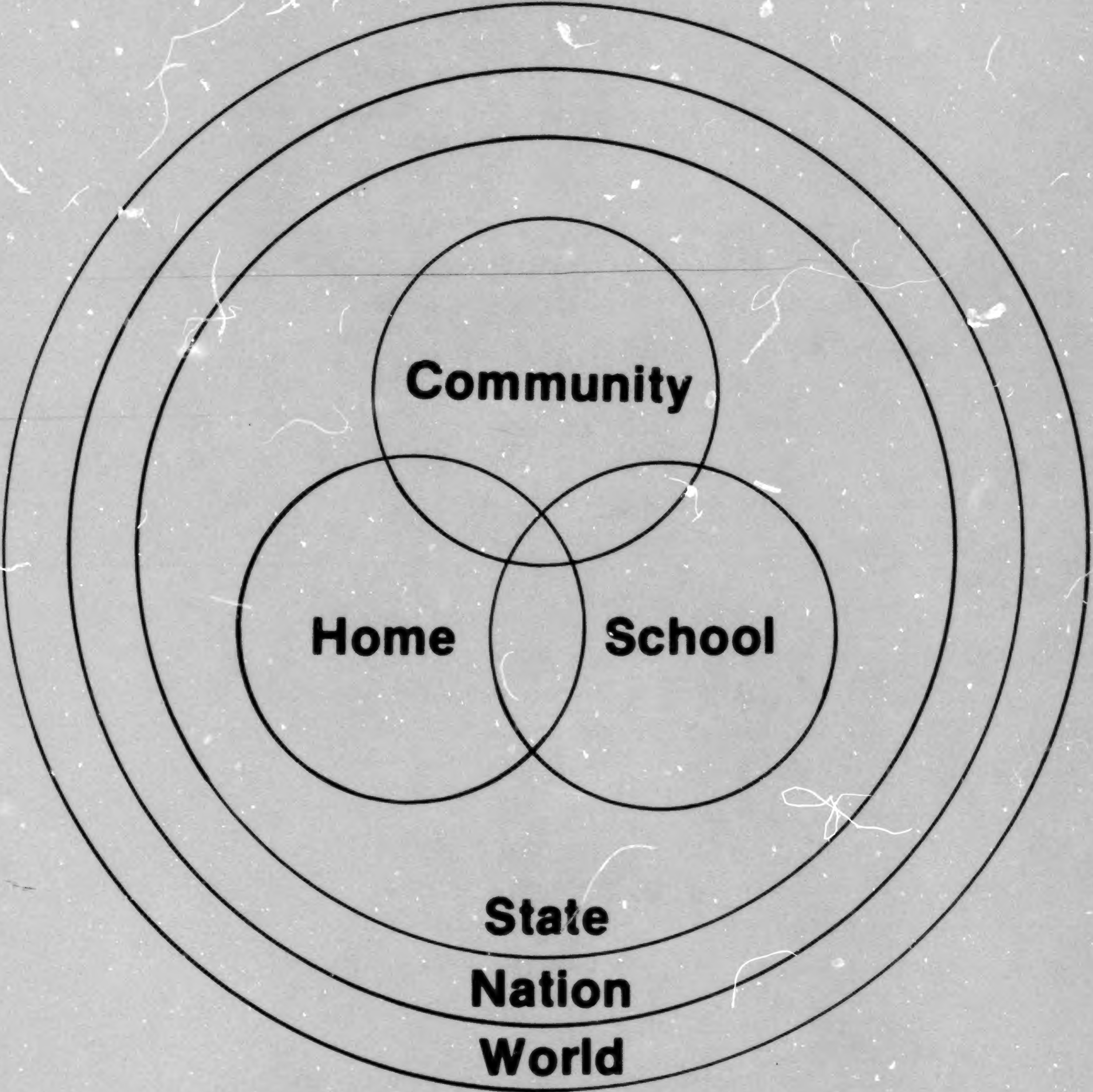
- provides a rationale for differentiated programs for the gifted and talented;
- suggests major steps for school and classroom planning;
- provides principles for differentiated curricula;
- provides examples and samples of units, lessons, forms, and letters; and
- provides suggested resources.

It is hoped that the resource guide will be used as an aid for teachers of special gifted and talented programs as well as all classroom teachers who work with gifted and talented students.

For effective gifted and talented programs, the ideas, models, and examples in this resource guide need to be carefully studied and modified according to the specific and unique student, teacher, school, district and community needs.

It is not a complete and exhaustive document, but a spring board for many more ideas and suggestions to be added in the future.

Overview of Gifted and Talented Program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A Synergistic Approach

P[illegible]rl Ching, '83

OVERVIEW OF GIFTED AND TALENTED EDUCATION

A Synergistic Approach

"Synergism is the cooperative action of discrete agencies such that the total effect is greater than the sum of the two effects taken independently."
- Webster

A synergistic approach by all in the school, home, community, district, state, and nation is needed to successfully accomplish all ten components as shown on the preceding chart and to reach the goal and objectives for gifted and talented programs.

In the school, we know that students are not gifted and talented only when they are with their special gifted and talented teachers. The entire faculty needs to commit their support and help, and to think of the program as their program and not relegate this responsibility to only one or two persons.

In the home, gifted and talented students may have conflicts in determining their values, their roles and aspirations. Members of the family need to provide the love, support, understanding, and discipline needed by the gifted.

In the community, gifted and talented students will need exposure to many new experiences, resources, government agencies, and other institutions, such as universities and colleges. They will always need good adult models or mentors to emulate and opportunities to learn and participate in the real world.

At the district levels, gifted and talented students will need to have assistance in financial support and special materials and resources. Expertise from the district as well as from the colleges and universities is needed in the training of teachers and administrators in gifted education.

At the state and national levels, gifted and talented students will need to have help in safeguarding their equal rights in plans, policies, rules and regulations. Expertise is needed for clear guidelines, procedures and resources in developing, implementing and evaluating programs for them. They will need the legislative and executive leadership to direct and channel their talents and gifts for the benefit of themselves as well as society.

As a result of this synergistic effort by all, the gifted and talented will become more knowledgeable, mature, and prepared. They will be much happier and confident to use their gifts and talents and create a better world.

A SYNERGISTIC APPROACH TO GIFTED AND TALENTED

Study what gifted and talented education is and is not.

Learn about waYs to provide what is needed from individuals, schools, community, the Department of Education and other groups.

Keep abreast of New research, programs, legislation, and Department of Education Plans.

Support program dEvelopment and implementation by serving as resources, both individually and corporately.

Communicate conceRns, needs, accolades and appreciation.

Gain support from others.

EstablIsh a library or bank of materials to share.

Sponsor mini-courses, workshops, and seminars for students and parents.

SupporT scholarships and other incentives for students.

Allow for Individuality and flexibility.

InteraCt with each other!

Pearl Ching 1983

Ten Major Steps

The chart, "Overview of Gifted and Talented Programs" on page three illustrates an overview of the major components necessary to implement a gifted and talented program in a school.

There are ten major steps in developing and implementing a gifted and talented program. The first major step is to know who the gifted and talented are and the purpose for the gifted and talented program. The goal is to "individualize the education of the gifted and talented students in the public schools by providing a more flexible system wherein students who demonstrate superior achievement or who possess the potential for superior achievement are provided with the encouragement and opportunities necessary for them to perform at a rate and level commensurate with their level of ability and achievement."[1]

The second major step is to establish an identification system. Schools should:

1. use multiple criteria including test scores, nominations, students' products, and past records;
2. have a school committee for gifted and talented of at least three members to review, rate, and recommend;
3. have data on students using a matrix or case study form.

Students selected for school programs need to:

1. demonstrate or show potential for superior achievement through administration of assessment instruments, observations and rating scales in one or more of the six areas of giftedness and

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[1] A State Plan for Providing Appropriate Educational Opportunities for the Gifted and Talented, Department of Education, State of Hawaii, 1977.

talent: intellectual ability, specific academic ability, creative ability, leadership capability, psychomotor ability, and performing and visual arts ability;

2. meet the standards and requirements of the school's gifted and talented program through additional factors and measures.

The third major step is to decide on administrative arrangements for placement and programming. Program prototypes include acceleration which places/provides instruction at more advanced levels through means such as grade skipping and subject advancement; enrichment which supplants, supplements, or extends learning in depth or breadth; and guidance which helps to guide/counsel students for better understanding of themselves and others.

There are various ways to group students to schedule classes and to make arrangements for special classes. Considerations include space, facility, numbers of students or courses, staff and their roles and responsibilities, materials, resources and equipment, budget and in-service activities.

There should be some time for gifted and talented students to work with regular students, some time with gifted and talented students and some time to work independently.

The fourth step is to assess the needs of the participating students in the gifted and talented program. What are their strengths, weaknesses, interests, learning styles and special needs? Consideration must be given to the affective as well as cognitive aspects.

Some methods to determine student needs include using the matrix form or case study form, administering additional questionnaires or surveys, reviewing past records, observing present performances and, most important of all conferencing with students and their parents.

The fifth step is to plan for differentiated curriculum. The teacher needs to use professional judgment when selecting from the various teaching-learning models of Bloom or Williams, Renzulli, Kohlberg or others. A mix and match approach must be used to fit the particular students as individuals and as a group. The use of both the cognitive and affective domains need to be considered.

The "Guiding Principles of a Differentiated Curriculum for the Gifted and Talented" which was developed by the National Curriculum Council must be used in planning and designing any curriculum and instruction for gifted and talented.

The sixth step is to consider the scope and sequence of the areas of knowledge in language arts, math, social studies, science and others.

The Department's curriculum guides for the various subject areas should be used as references and as the bases for the development of a gifted and talented scope and sequence. This will assist teachers and students to advance from prerequisite or entry skills to more complex, abstract and sophisticated levels, such as inter-disciplinary studies.

A scope and sequence will help to eliminate duplications in content, expose students to the major components or elements of learning experiences in the various disciplines, and provide students with challenging and stimulating new opportunities.

The seventh step is to develop a unit or lesson plan which includes behavioral objectives for students, the concepts and generalizations to be learned, provisions for activities and resources in and out of school, options for students' products and performances and criteria for evaluation.

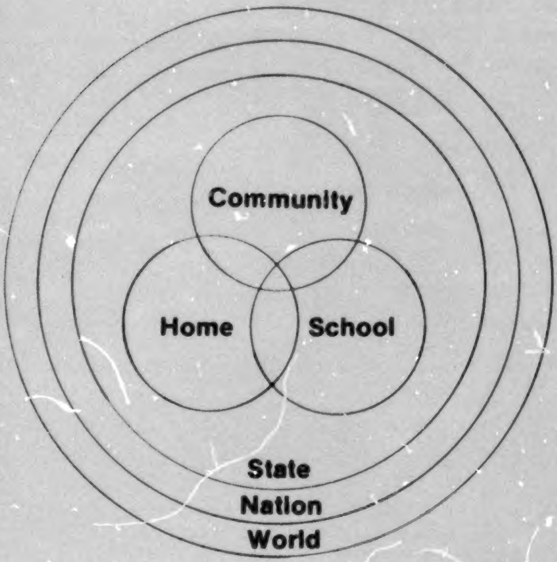
The eighth step is to implement the unit or lesson plans. As instruction occurs, teachers always need to be ready to redesign and refine experiences according to student interests and needs. Students will need to have available to them many rich resources in materials and people.

The ninth step is to have students present their high quality products and performances in new, creative and various ways to real audiences besides their parents, peers, and school. Audiences should include others such as the Department or other government agencies, newspaper editors, television stations, councils, and the legislature.

The tenth step is to have evaluations by student, teacher, school, district and state offices of the students' progress and the effectiveness of the total program. Criteria for evaluation of student products and performances should be established by the teacher and students, and experts or specialists when appropriate. Criteria for formative and summative evaluations of gifted and talented school, district or state programs should also be established by the respective personnel involved.

Presented in the following sections are attempts to help educators with more practical ideas, techniques and materials for each of the major ten steps.

Overview of
Gifted and Talented Program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A Synergistic Approach

Pearl Ching, '83

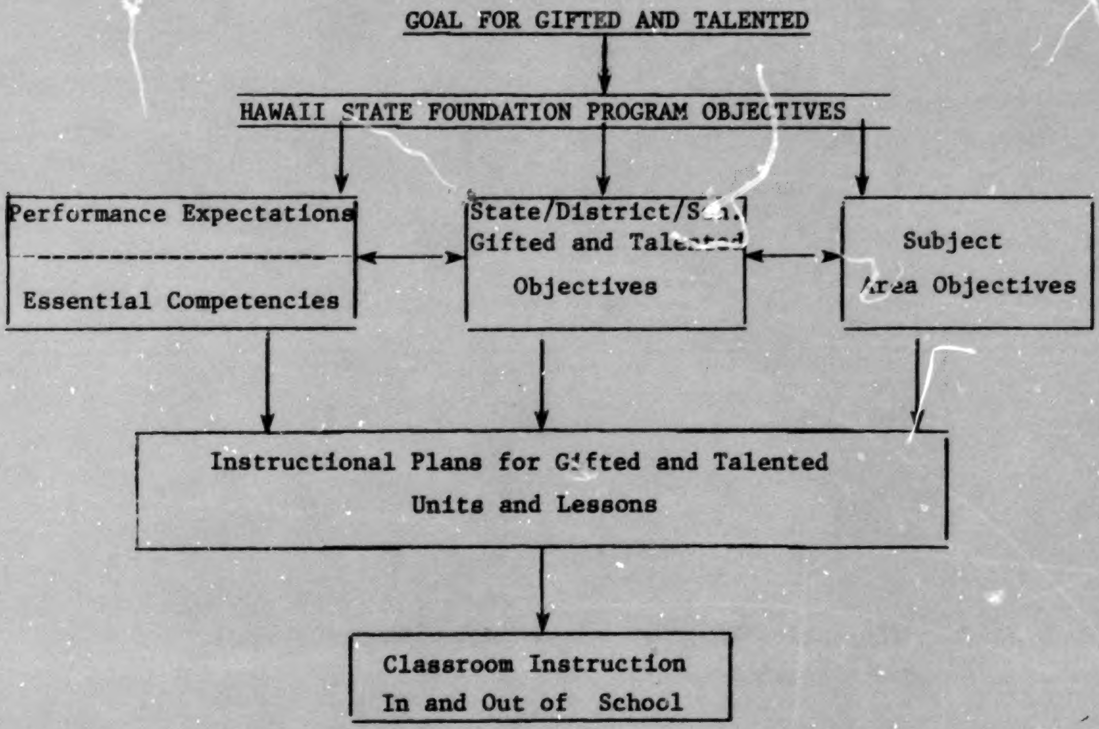
1. **Goals and Objectives**
2. G/T Identification
3. Administrative Arrangements
4. Needs Assessment
5. Differentiated Curriculum
6. Instruction in the Disciplines
7. Unit and Lesson Planning
8. Implementation of Plans
9. Student Products and Performances
10. Evaluation

I. GOALS AND OBJECTIVES

Districts and schools are different in student population, community, facilities, values and needs and will implement programs accordingly.

Samples or examples of goals and objectives from different districts and schools are provided. Although there may be similarities and differences, they still pursue the state's goal and objectives and still keep within the Department's guidelines, rules and regulations.

The following chart shows the relationships among the Foundation Program Objectives, gifted and talented objectives, the instructional area objectives, performance expectations, essential competencies, instructional objectives, and classroom instruction.


GOAL FOR GIFTED AND TALENTED
HAWAII STATE FOUNDATION PROGRAM OBJECTIVES
Performance Expectations
Essential Competencies
State/District/Sch.
Gifted and Talented
Objectives
Subject
Area Objectives
Instructional Plans for Gifted and Talented
Units and Lessons
Classroom Instruction
In and Out of School

NATIONAL GOALS FOR THE GIFTED AND TALENTED*

1. Develop productive thinking
2. Develop creative expression
3. Develop learning to learn skills
4. Develop self-expression
5. Provide exposure to new experiences
6. Provide for acquisition of knowledge

Developed by the National/State Leadership Training Institute on the Gifted and Talented, CA, 1977.

RELATIONSHIP BETWEEN THE STATE'S FOUNDATION PROGRAM OBJECTIVES AND GIFTED/TALENTED PROGRAM, TEACHER, AND LEARNER GOALS - LEEWARD DISTRICT

SCHOOL PROGRAM FOCI		FOUNDATION PROGRAM OBJECTIVES, DOE	GIFTED/TALENTED PROGRAM GOALS	TEACHER GOALS	LEARNER GOALS
SELF CONCEPT	SELF AWARENESS AND UNDERSTANDING	2. Develop positive self-concept. 5. Develop physical and emotional health.	The student will be helped to accept, become aware of and understand the unique characteristics which contribute to his/her being gifted/talented.	The teacher will consciously create a learning environment where the gifted student can appreciate the feeling of he/she experiences.	The student will develop a better understanding of him/herself and to recognize and deal with his/her feelings about being identified as gifted or potentially gifted.
RELATIONSHIP		7. Develop a continually growing philosophy that reflects responsibility to self as well as others.	The student will be provided with opportunities to interrelate and communicate with individuals like/unlike himself/herself and to share his unique talents and products with them	The teacher will encourage the student to interact freely with his peers as well as adults and provide opportunities for the development of honest and direct communication.	The student will relate with individuals like himself/herself and share his/her unique talents and products with them and other audiences.
AFFECTIVE LEARNING		6. Recognize and pursue career development as an integral part of personal growth development. 7. Develop a continually growing philosophy that reflects a responsibility for self and others.	The student will be helped to become a productive individual commensurate with his/her giftedness while developing responsibility for self and society.	The teacher will assist the student in becoming a compassionate, responsible and self-actualizing individual by developing his/her ability to recognize, internalize, and utilize his/her potential.	The student will become a productive individual developing responsibility for self and others commensurate with his/her giftedness.
CREATIVE THINKING	ACADEMIC ACHIEVEMENT AND RELATED SKILLS	8. Develop creative and aesthetic sensitivity.	The student will be provided with opportunities to create ideas and/or products as a result of interaction with his/her environment.	The teacher will establish a challenging environment where curiosity, imagination, exploration and excitement can occur by providing opportunities for reflective, critical, intuitive and innovative thinking.	The students will create novel ideas or products as a result of interaction between individual and his/her environment. The student will engage in fluent, flexible, original and elaborative thinking.
HIGHER LEVEL THINKING		1. Develop basic skills for learning and effective communication with others. 6. Recognize and pursue career development.	The student will be provided with opportunities to operate at higher levels of thinking utilizing advanced or accelerated content for certain sustained periods of time.	The teacher will provide differentiated learning activities where higher thought processess can occur in accelerated content and the exploration of cross-disciplinary issues/themes.	The student will demonstrate advanced levels of thinking that can occur in accelerated content and cross-disciplinary study of issues/themes.
SELF DIRECTED LEARNING	INDEPENDENT AND STUDY SKILLS	1. Develop basic skills for learning and effective communication. 3. Develop decision-making and problem solving skills. 4. Develop independences in learning. 6. Recognize and pursue career development.	The students will be given opportunities to select strategies for making use of learning resources and perform these strategies skillfully and with initiative.	The teacher will organize the program around unit topics, projects, interests or study themes and provide opportunities for exploratory, self-directed, conceptual, and research experiences.	The student will demonstrate independent learning skills and self-directedness in planning, and carrying out investigative projects using a variety of learning resources.

HONOLULU DISTRICT GOALS FOR GIFTED AND TALENTED

	Foundation Program Objective Number
1. Enable gifted and talented students to develop and integrate basic skills within diversified and advanced content areas and to produce products commensurate with their abilities.	1
2. Meet the affective needs of gifted and talented students and enhance their positive self-concept and physical and emotional health.	2 and 5
3. Promote complex, productive, abstract thinking skills, both convergent and divergent, commensurate with the abilities of gifted and talented students.	3
4. Develop independent or self-directed learning skills and provide opportunities for self-directed learning and research for gifted and talented students.	4
5. Encourage in-depth exploration of a range of career opportunities commensurate with the gifted and talented students' interests and abilities.	6
6. Assist gifted and talented students to improve their relationship with peers, both gifted and non-gifted, adults, and others.	7
7. Encourage and foster gifted and talented students to become creative producers and consumers.	8

GIFTED/TALENTED PROGRAM

LEARNER GOALS FOR THE WINDWARD DISTRICT SCHOOLS

The gifted/talented program will enhance the student's ability to apply and demonstrate:

1. Higher cognitive thinking processes

   Objectives:

   a. Knowledge
   b. Comprehension
   c. Application
   d. Analysis
   e. Synthesis
   f. Evaluation
2. Creative thinking
   a. Ideational fluency
   b. Originality
   c. Flexibility
   d. Elaboration
3. Inquiry skills
   a. Observing
   b. Experimenting
   c. Criticizing
   d. Evaluating
4. Problem-solving and critical thinking
   a. Defining problem
   b. Locating evidence - research
   c. Hypothesizing
   d. Validating
   e. Evaluating
5. Valuing skills
   a. Thinking and feeling processes
   b. Choosing, or decision making
   c. Communicating
   d. Establishing interpersonal relationship
   e. Relating to personal growth

        1) Self-awareness
        2) Expanding interests
        3) Applying human relations skills
        4) Understanding implications of ideas and issues

6. Independent study skills
    a. Identifying problem (establishing learning goals)
    b. Acquiring the methodological resources and investigative skills
    c. Locating appropriate resources
    d. Planning time needed to complete tasks
    e. Organizing information
    f. Finding appropriate outlets in product form
    g. Sharing outlets with audiences
    h. Evaluating one's own progress or accomplishment
7. Leadership and service roles
    a. Self-analysis
    b. Values clarification
    c. Leadership styles and skills
    d. Group dynamics
    e. Program planning
    f. Time management
    g. Problem solving
    h. Shared decision making
    i. Matching potential to performance
8. Interest development
    a. Awareness of self
    b. Awareness of options
    c. "...students will have an opportunity to pursue their own interest(s) to whatever depth and extent they so desire; and they will be allowed to pursue these interests in a manner consistent with their own preferred styles of learning."

       - Renzulli, J.
9. Career development
    a. Self-awareness
    b. Awareness of career options
    c. Exploration of career options

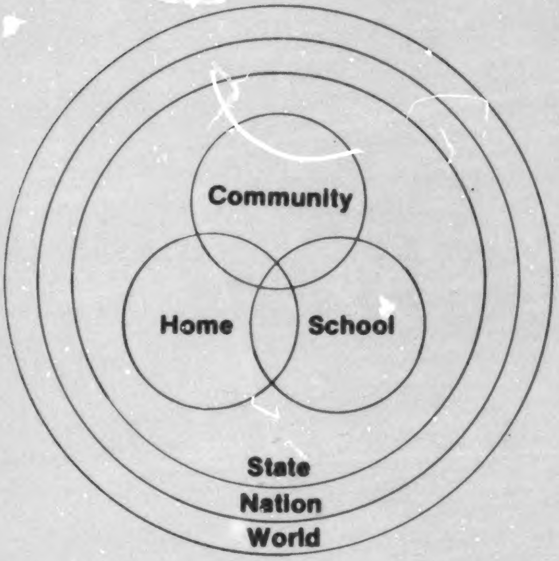
d. Adaptability in own career development

e. Excellence in demonstrated ability

f. Occupational decisions

g. Responsibilities in the occupational society

**Overview of
Gifted and Talented Program**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II. GIFTED AND TALENTED IDENTIFICATION

In our schools today, there is a pursuit to identify all strengths, gifts and talents of all students in all disciplines and activities. As much as possible within available resources, our intent is not to restrict or exclude students to form an elitist group, but to welcome and include as early as possible, students to participate in challenging programs with high standards and expectations.

However, it is important to have an operational system for identifying and selecting these students in the various areas of giftedness and talent. More people now know that if we do not make every attempt to find the gifted and talented students, they may be "turned off" and drop out of school; they may not know of their potential and become troublesome, confused and misplaced; they may conform to the norm; they may even regress below the norm due to poor work habits developed when completing easy and unchallenging assignments. It is true that some of the very best students are never able to share their talents or contribute their gifts for the betterment of society or for their own self-fulfillment.

Identification for labeling some students gifted or talented and other students as not gifted or talented is not the issue. An identification and selection system is necessary:

1. to recognize the special characteristics of these gifted and talented students and identify their needs, and
2. to help in planning, budgeting, implementing and evaluating program modifications and any additional resources needed.

Procedures for identification are as follows:

1. The school screens students by using multiple factors, including

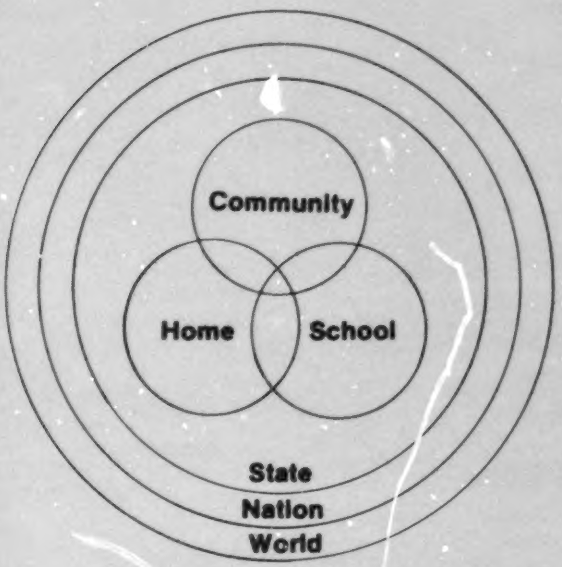
test scores, nominations, student's products, and past records.

2. Additional assessment instruments are administered as needed.
3. Data are compiled by using a matrix or case study form.
4. The school committee for gifted and talented reviews the data and recommends to the principal or designee the selection of students.
5. The principal or designee makes the final decision on selections and obtains parental consent for placement of students.

To ensure that gifted and talented students are identified and provided the appropriate educational opportunities, schools need to use various assessment instruments - for those with diverse backgrounds and styles of learning, the culturally different, the disadvantaged, the handicapped and the very young. It is still difficult to develop valid and reliable identification instruments for the many areas of giftedness, and much research is needed.

Samples of assessment instruments, forms, and letters which are recommended for use in addition to the recommended standardized tests in the Hawaii State Guidelines and Procedures for Gifted and Talented Education can be found in the Appendix.

Overview of Gifted and Talented Program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III. ADMINISTRATIVE ARRANGEMENTS

Thomas Jefferson once said, "There is nothing more unequal as the equal treatment of unequals."[2] More people are realizing that the gifted and talented, mentally retarded, handicapped, disadvantaged and bilingual need different school programs and services because they have special needs and abilities. Their educational opportunities can be appropriately designed only if there is a match and fit of the programs and services to their special needs and abilities.

A gifted and talented program includes acceleration, enrichment, and guidance beyond the regular curriculum. Acceleration means that students are placed and provided instruction in a given area or subject at a more advanced level. Provisions include grade skipping, subject advancement, credit-by-exam, advanced placement and early admissions. Enrichment means that students are provided experiences which supplant, supplement or extend learning in breadth or depth. These experiences are provided through special classes, seminars, cluster groupings, resource centers, mentors, independent study, mini-courses and others. Guidance and counseling means that students are provided opportunities to understand themselves and others better, to learn to cope with psychological and social problems, and to plan for careers. Experiences include peer counseling, career and vocational counseling, study groups and others.

In addition to the options for acceleration as described in the State Plan for Providing Appropriate Educational Opportunities for the Gifted and Talented, various program options are offered in our public schools of Hawaii. Some examples include:

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[2] National Association for Gifted Children Conference, Orlando, Florida, 1981.

Advanced Placement Courses

Hawaii schools offer AP English, Calculus, U.S. History, European History, Biology, Chemistry, and Physics. These college level courses are taught in high schools and students may take advanced placement exams in May of each year to qualify for college credits. A fee is charged for the exam, but students passing with a 3, 4, or 5 rating may receive college credit. Colleges use various methods to determine credits. It is important that a qualitatively different curriculum is provided.

Cluster Group in Heterogenous Class

Gifted and talented students can be provided challenging and appropriate education by teachers who are skillful in individualizing instruction for a class of students possessing a wide range of abilities, interests, needs, and learning styles. A time to work with the gifted students can be scheduled with small group lessons, individual conferences, contracting or other tasks. In some situations, the teacher may utilize an adult or student volunteer to help. A unit approach, directed research, or independent study may be used.

Community Mentors

A school can coordinate an enrichment program using volunteer community mentors for an individual or small group interested in a particular profession or area. The program can operate during or after school hours or on Saturdays, but the students must have teacher-counselors as coordinators.

Credit-by-Examination

Students may receive school credit for some courses if they pass the examination for credit offered: Algebra 1A and 1B, Chinese I, French I, Hawaiian I, Japanese I, Japanese II, Modern History of Hawaii, Spanish I, Tagalog I, and Typing.

Directed Study or Research

This is an option provided for gifted students in lieu of those aspects of the regular curriculum already mastered in order to do individual research during some part of each school day. Students need direction and assistance from the teacher and librarian.

Early Admissions

Arrangements can be made for exceptional students to enroll in a university course while attending high school. Recommendation by the principal and acceptance by the university are required.

Executive High School Internships

A national program for high school juniors and seniors that allows them to serve for a full semester, on sabbatical from regular classes, as interns to business executives and managers, government administrators, newspaper editors, television producers, hospital administrators, judges and attorneys, directors of social service agencies and civic associations.

G/T Counseling Program

Once a week or every other week, gifted students may attend individual, large or small group sessions based on career or college concerns or personal need, based on underachievement or other social-emotional problems. Each school counselor is alloted at least three hours per week to work with gifted students.

G/T Team Teaching

With synchronized schedules, two or more teachers work cooperatively in two or more subject areas, such as social studies and English or social studies and science, often using a unit or project approach. Classes may be combined in an open classroom or two separate rooms.

Homogeneously Grouped Gifted Class

Gifted students are assigned to a specific class at their grade levels for a particular subject area, such as math or language arts. Although the range of differences will not be as great, the teacher needs to differentiate the curriculum to match student abilities, interests, needs, and learning styles.

Honors Classes

Students with high abilities and achievement are grouped in the various subject areas. Instruction is at the advanced levels.

Itinerant G/T Program

A gifted teacher or community expert may serve gifted students in 3 to 5 schools in a particular subject area, such as in music, drama, computers, or science.

Resource or Learning Center

A special facility at the school is designated as a center. Resources including books, kits, supplies, audio-visual software and equipment are available for students with supervision from a teacher or aide. Students pursue areas of study beyond those prescribed in the regular classroom. The resource teacher provides opportunities which help to maximize their abilities to think and produce creatively.

Special Pull-out Program (Supplanting)

These programs provide the basic and enrichment activities for students in a particular subject area such as language arts or math. Students are pulled out concurrently for that particular area of study. Communication and cooperation between the regular teacher and the special teacher are essential for success. The special teacher needs to inform and in-service staff, plan for visitations, and share ideas, materials and techniques.

Special Pull-out Program (Supplementing)

These programs provide the enrichment/accelerated activities for students, while the regular classroom teacher provides the "basics".

PROGRAMMING POSSIBILITIES
MIX AND MATCH

WHO

- Generally gifted/talented
- Academically talented
- Gifted in:
  - math
  - reading
  - any content area
  - leadership
  - motivation
  - creativity
  - psychomotor (dance, athletics, movement, mechanical)
  - arts (visual, performing)
- Underachieving gifted
- Disadvantaged/culturally different

HOW TO GROUP

- Multi-age (primary or intermediate)
- Student pairing
- Student and adult pairing in or out of school
- Homogeneous (all or part of the time)
- Integrated/mainstreamed with articulated program all or part of the time
- Independent study project
- Interest based
- Alternative schools
- Early entrance

PROGRAM TYPE

- Counselor
- Mentor/tutor
- Itinerant resource person
- Learning centers
- Minicourses, seminars
- Community-focused
- Resource room
- Parent volunteer
- Community
- Continuous progress
- Library
- Great books
- Field trip/travel
- Acceleration (faster than curriculum)
- Enrichment (broadening the curriculum)
- Differentiated curriculum
- Skills/process base
- Advanced placement

WHERE

- Camp
- Gym
- Library
- Art or music
- Cafeteria (student or faculty)
- Tent
- Playground
- Hallway
- Principal's office
- Home Economics room
- Shop
- Classroom
- Under a banyan tree
- Zoo
- Community
  - Museum
  - Art Academy
- Beach
- Outdoors

WHEN

- Before school
- After school
- Saturdays
- Summer
- Vacations
- During day
  - study hall
  - activity time
  - altered schedule
  - block schedule
  - released time

While the part time and after school or Saturday activities are excellent ways to get programs for the gifted started, the ultimate goal should be to have programs for the gifted to become integral and ongoing in the regular school program.

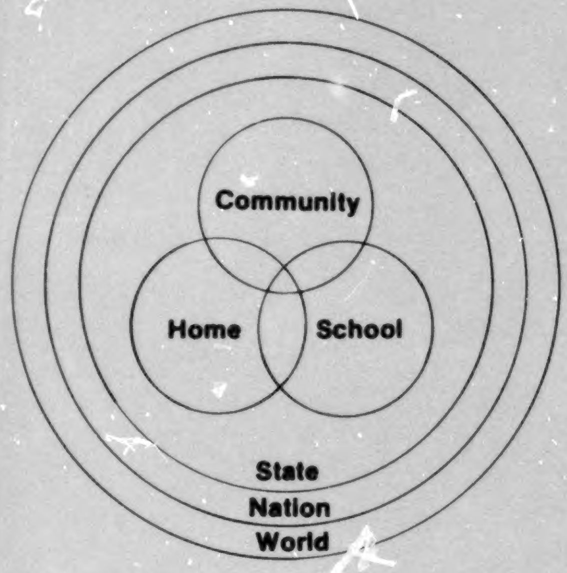
An adaptation of a chart by Judith J. Wooster, *Suggestions for Planning and Providing Programs for the Gifted/Talented/Creative, New York State Education Department, New York, 1980, p. 16.*

ENRICHMENT ACTIVITIES

ENRICHMENT IS MORE THAN	ENRICHMENT IS
REPRODUCTIVE THINKING	PRODUCTIVE THINKING
ACCUMULATING AND REPORTING INFORMATION	APPLYING AND ASSOCIATING
LEARNING FACTS	LEARNING CONCEPTS AND GENERALIZATIONS
MORE WORK	EXTENDING AND/OR REPLACING TRADITIONAL LEARNING EXPERIENCES
ANSWERING QUESTIONS	SEEKING PROBLEMS
ACCEPTING ALL DATA	CRITICALLY EVALUATING
LEARNING SEPARATE ENTITIES	INTERRELATING INFORMATION
LEARNING THINGS AS THEY ARE	LEARNING THINGS AS THEY SHOULD OR COULD BE

- ADAPTED FROM PROVIDING PROGRAMS FOR THE GIFTED AND TALENTED: A HANDBOOK BY SANDRA KAPLAN, VENTURA, CA 1974

Overview of Gifted and Talented Program


Community
Home
School
State
Nation
World

A Synergistic Approach

Pearl Ching, '83

1. Goals and Objectives
2. G/T Identification
3. **Administrative Arrangements**
4. Needs Assessment
5. Differentiated Curriculum
6. Instruction in the Disciplines
7. Unit and Lesson Planning
8. Implementation of Plans
9. Student Products and Performances
10. Evaluation

IV. NEEDS ASSESSMENT OF GIFTED AND TALENTED LEARNERS

A qualitative differentiated curriculum is the educational response to the differences that reside in the gifted and talented students. What are some of these unique characteristics?

Some characteristics of gifted and talented which Seagoe, Renzulli and others have included are as follows:

1. Verbal proficiency, large vocabulary
2. Power of abstraction, conceptualization, synthesis and concentration
3. Retentiveness
4. Interest in problem-solving and inductive learning
5. Curious and questioning attitude
6. Sensitive and intuitive
7. Creative and inventive
8. Persistent and goal directed
9. High energy and alertness
10. Preference for individualized work
11. Diversity of interests and abilities
12. Strong critical thinking and self-criticism

It is important to remember that each student will have different clusters of these characteristics.

Gowan and Bruch (1971)[3] point out that the gifted differ from other youngsters in their needs for greater challenge in the intellectual excitement of creative explorations and productions, and in respect to their early concerns with questions about values and morals. These characteristics of gifted youngsters make them exceptionally responsive to appropriate curricular and guidance programs and at the same time to become potential sources of problems when the students are neglected or mishandled. Typically gifted children have:

1. More complex self-actualization needs because they begin to construct a value system earlier in life and make a more intense search for meaningfulness.
2. Greater dissatisfaction with "standard" acceptable levels of performance (are more self-critical).
3. Social and emotional development which continue over a long span of time and to a higher level than that of average persons.
4. Difficulty in finding an adult model figure of high enough level of attainment.
5. Confusion stemming from a dual norm group (intellectual peer group and chronological age group).
6. Vocational adjustment problems including:
    - Conflict with cultural stereotypes.
    - Upward social mobilization problems.
    - Selection of vocational choice in line with abilities.
    - Frustration of gifted women in careers.
7. A need to learn to maintain feelings of worth at times of little or no recognition.
8. A need for a creative atmosphere - the freedom for constructive non-conformity.

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[3] Suggestions for Planning and Providing Programs for the Gifted/Talented/Creative, Grace Lacy, New York Education Department, New York, New York, 1980, p. 10.

9. A need to try out ideas, values and social attitudes on a peer group.
10. Keen perception of the attitudes of those around them.
11. A highly developed sense of responsibility for participation in the advancement of society.

The Creative Characteristics Model by Bruch show various combinations of the characteristics that are positive and negative for creative processing and production. It may be used to examine the creative or non-creative functioning of individuals. The model is proposed as a guide for assessment of self and others, counseling and self-development and teaching or learning to enhance creative development.

BRUCH'S CREATIVE CHARACTERISTICS MODEL

USE:	HIGH (or POSITIVE)	LOW (or NEGATIVE)
SENSORY AWARENESS	Sensory awareness	Atrophy of sensory awareness
	Aesthetic sensitivity, sense of beauty	Concrete, functional
	Openness to total sensing (synaesthesia)	Closedness, or minimal, single-sense awareness
	Subjective reality	Objective reality
	Imaginative, uses imagery	Absence of, or only limited, fantasy, imagery
INDEPENDENCE	Assertive; influences others	Passive; fears expression of aggression
	Independent	Dependent
	Nonconforming	Conforming
	Creative "loner"; problem solves alone	Gregarious; seeks socialization; prefers group problem solving
	Sense of creative (self) density	Low self-concept as creative

Bruch, Catherine B. The Faces and Forms of Creativity, 1981. Printed with permission from National/State Leadership Training Institute on the Gifted and the Talented (N/S-STI-G/T). Office of the Superintendent of Ventura County Schools, Ventura, California.

BRUCH'S CREATIVE CHARACTERISTICS MODEL

USE:	HIGH (or POSITIVE)	LOW (or NEGATIVE)
COGNITIVE OPENNESS	Sensitivity to problems, gaps	Traditional; prefers status quo
	Risks new experiences	Prefers known; avoids/fears unknown
	Tolerates ambiguity (less structured)	Prefers structure; seeks early closure
	Tolerates disorder	Requires order, balance, symmetry; sequential linear, not holistic
	Flexible	Rigid; stereotyped
BODY AWARENESS	Body and movement awareness	Restricted body awareness
	Freeing energy through body integration, movement therapies, self-development exercises	Blocked or diminished flow of bodily energies
	Biofeedback awareness of internal physical states	Postural lack of integration or freedom of movement
		Difficulty in recognizing internal states in biofeedback experiences
SENSITIVE BEHAVIORS	Playful	Serious
	Spontaneous	Restricts expression
	Intuitive	Factual; dogmatic (convergent)
	Joyful	Hostile
	Sensitive to others	Insensitive to others
	Warm, empathic	Cold
COMPLEXITY-HOLISM	Complexity	Simplicity
	Integrated; holistic (Gestalt)	Prefers small details; polarizes (atomistic)
	Abstract, theoretical	Pragmatic

The Creative Learning Model by Donald Treffinger on page 39 shows the three levels of creative learning with the key tasks, representative processes and some illustrative methods. Gifted and talented students should progress to level three. Teachers can help students overcome the Blocks to Creativity as described on page 40.

Bruch, Catherine B. The Faces and Forms of Creativity, 1981. Printed with permission from National/State Leadership Training Institute on the Gifted and Talented (N/S-LTI-G/T), Office of the Superintendent of Ventura County Schools, Ventura, CA.

THE CREATIVE LEARNING MODEL

Level	Key Tasks	Representative Processes	Illustrative Methods
I	Openness to many new ideas, seeing many possibilities and alternatives	*Cognitive* Fluency Flexibility Originality Elaboration Cognition and memory *Affective* Curiosity Risk taking Openness to experience Willingness to respond Sensitivity to problems and challenges Tolerance for ambiguity Self-confidence	Warm-Up Open-Ended Thoughts/Feelings Brainstorming/Deferred Judgment Idea Checklists Attribute Listing Checkerboard Techniques Forced Relationships Observation/Awareness
II	Utilizing ideas in complex situations; dealing with complex feelings, tensions, conflict Practice in using thinking and feeling processes	*Cognitive* Application Analysis Synthesis Evaluation Methodological or research skills Transformations Metaphor and analogy *Affective* Awareness Development; Managing complex feelings, conflict Relaxation, growth Values and valuing Psychological safety in creating Fantasy, imagery	Morphological Analysis Values Clarification Role Playing/Sociodrama Games Simulations Synectics Creative Problem Solving Research Skills Studying Creative People
III	Putting many creative thinking and feeling processes to use in solving problems independently	*Cognitive* Independent learning and inquiry Self-direction Resource management Product development *Affective* Internalizing values Commitment to productive living Toward self-actualization	Independent Study Creative Problem Solving Type III Enrichment Three-Stage Model

Encouraging Creative Learning for the Gifted and Talented, Donald Treffinger, 1980, p. 22

BLOCKS TO CREATIVITY

1.	FEAR OF FAILURE	Drawing back; not taking risks; settling for less in order to avoid the possible pain or shame of failing.
2.	RELUCTANCE TO PLAY	Literal. Fear of seeming foolish or silly by experimenting with the unusual.
3.	RESOURCE MYOPIA	Failure to see one's own strengths; lack of appreciation for resources in one's environment.
4.	OVER-CERTAINTY	Rigidity of problem-solving responses; not checking out one's assumption.
5.	FRUSTRATION AVOIDANCE	Giving up too soon when faced with obstacles; avoidance of pain or discomfort that is often associated with change.
6.	CUSTOM-BOUND	Over-emphasis on traditional ways of doing things; tendency to conform when it is not necessary or useful.
7.	IMPROVISHED FANTASY LIFE	Mistrusting, ignoring or demeaning the inner images and visualizations of self and others.
8.	FEAR OF THE UNKNOWN	Avoidance of situations which lack clarity or which have unknown probability of succeeding.
9.	RELUCTANCE TO LET GO	Trying too hard to push through solutions to problems. Inability to let things incubate, or let things happen naturally
10.	RELUCTANCE TO EXERT INFLUENCE	Fear of seeming too aggressive or pushy in influencing others; hesitance to stand up for what one believes; ineffective in making oneself heard.
11.	IMPROVISHED EMOTIONAL LIFE	Using energy in holding back spontaneous expressions.
12.	SENSORY DULLNESS	Not adequately using one's primary senses as a way of knowing; making only partial contact with self and environment.
13.	NEED FOR BALANCE	Dislike of complexity; excessive need for balance, order, symmetry.

Source unknown

Listed below are some techniques and approaches which are appropriate for accommodating typical characteristics of the gifted.

CHARACTERISTIC	APPROACH
• Creative and curious	• Providing a rich and varied environment which the children are encouraged to explore to make discoveries on their own. Encouraged to be creative.
• Talkative	• Students are encouraged to talk with each other and teacher.
• Independent	• Independence respected while teacher gives guidance when needed. Provision for much independent study and work.
• Work oriented	• Students are provided with sufficient materials and tasks to keep them interested and busy.
• Fund of information	• Students are permitted to proceed at their own pace. Are provided with opportunity to share information with others.
• Likes challenge	• A range of task difficulty is provided so that the students are challenged but not overwhelmed.
• Self critical and impatient	• Patient teacher who helps students to evaluate themselves critically but also to realize their own worth.
• Intuitive	• Spontaniety encouraged.
• Self starter	• Intrinsic motivation honored.
• Need structure	• Individual interests are encouraged but ground rules for environment laid down . . liberty within limits.
• Perseverance and concentration	• Opportunity to complete cycles of activity . . non-intervention by teacher.
• High energy	• Mastery of movement; precision of movement.
• Realistic and questioning, reality oriented	• Reality oriented education.
• Love of language	• Extensive program of specific exercises for language development, teaching of vocabulary, communication skills.
• Power of abstract thought and reason	• Exercise of higher powers of the mind.

Suggestions for Planning and Providing Programs for the Gifted/Talented/Creative, New York State Education Department, New York. p. 11.

A COMPARISON OF TWO PERSPECTIVES FOR EXPLAINING NONCONFORMING BEHAVIOR IN STUDENTS

BEHAVIOR	WHEN PERCEIVED AS DISRUPTIVE	REMEDY	WHEN PERCEIVED AS GIFTED/TALENTED	REMEDY
1. Talks out of turn	Poor family training, big mouth, or troublemaker	Family conference, removal from class	Expresses ideas with ease, actively contributes	Independent study (supervised), peer tutoring, enriched environment
2. Does not pay attention	Slow learner, disrespectful	Ignore and fail, removal from class	Possible bored	Analysis of interest levels, high interest curricula
3. Never knows what he/she is going to do	Unpredictable and unstable	Mental health referral, "shape up or ship out"	Extensive repertoire of interaction	Instructional contracts
4. Incites other students to misbehave	Potential delinquent, disrespectful	Disciplinary action, separation from peer group	Strong peer leadership	Redirection of peer interaction through specific responsibility
5. Never sits still a minute	Hyperactive, brain injured	Medication, removal from class	Active participant, high energy level	Quiet-space activity, group presentations to peers
6. Challenges authority of teacher	Poor upbringing, doesn't know his place	Disciplinary action, removal from class	Questions authority based on understanding	Social responsibility instruction, provision of avenues for leadership
7. Constantly teases or interrupts other students	No self-control, troublemaker	Isolation in classroom, referral for social maladjustment	High potential for peer interaction and group identification	Cross peer instruction

8. Thinks everything is a joke	Smart aleck, wise guy	Disciplinary action, suppression of sense of humor	Understands philosophical differences in the use of language	Child-centered curricula based on assessed interest
9. Works sloppily and carelessly	Poor upbringing	Grade retention	Possibly bored, curriculum does not challenge or interest	Enriched curricula, single concept approach
10. Makes other students do things for him/her	Troublemaker, disrespects rights of others	Removal from peer group, isolation in the classroom	Misdirected leadership	Increase in responsibility through instructional contracts, peer tutoring

Source Unknown

DEVELOPMENTAL CHARACTERISTICS OF GIFTED AND TALENTED ORGANIZATIONAL PATTERNS

Maurice F. Freehill in his studies of developmental characteristics of the gifted and talented and organizational patterns has found that one of the most critical errors in many programs is lateness of inception. He purports that gifted and talented students learn how to learn early and the established learning patterns appear to persist.

He has found that during the early years at the K-3 level, students need to explore and extend themselves, because a large new world has opened before them. There should be a wide range of activities for them and early acceleration should be an option for more continuous and appropriate learning levels and for more constant motivation.

At grades 4-6, students are filled with "why, how, when, who, and where?" These are key years for academic learning and for the development of achievement patterns and habits of industry. Schools should require greater depth or concentration and should provide additional experiences for the students to practice and perfect their skills. There should be individual assignments, research studies, self-expressions in reporting and the development of evaluation skills.

At the junior high level (grades 7-8), students experience personal stress and social conflict. Students may neglect academic learning because they are searching for philosophic answers and for reassurances which arise from affectionate human relationships. Social sciences and social skills are important as well as modern languages, economic geography, literature, dancing, dramatics, and other expressive areas. Vocational interests might be provided through club activities.

In high school (grades 9-12), students find a new idealism, an increased willingness for social cooperation and a heightened need for specialized training. Therefore, there should be special groupings as well as some broad cultural activities with the total group.

Figure 1 shows a distribution for enrichment at the primary, elementary, junior high and senior high levels according to some developmental characteristics.

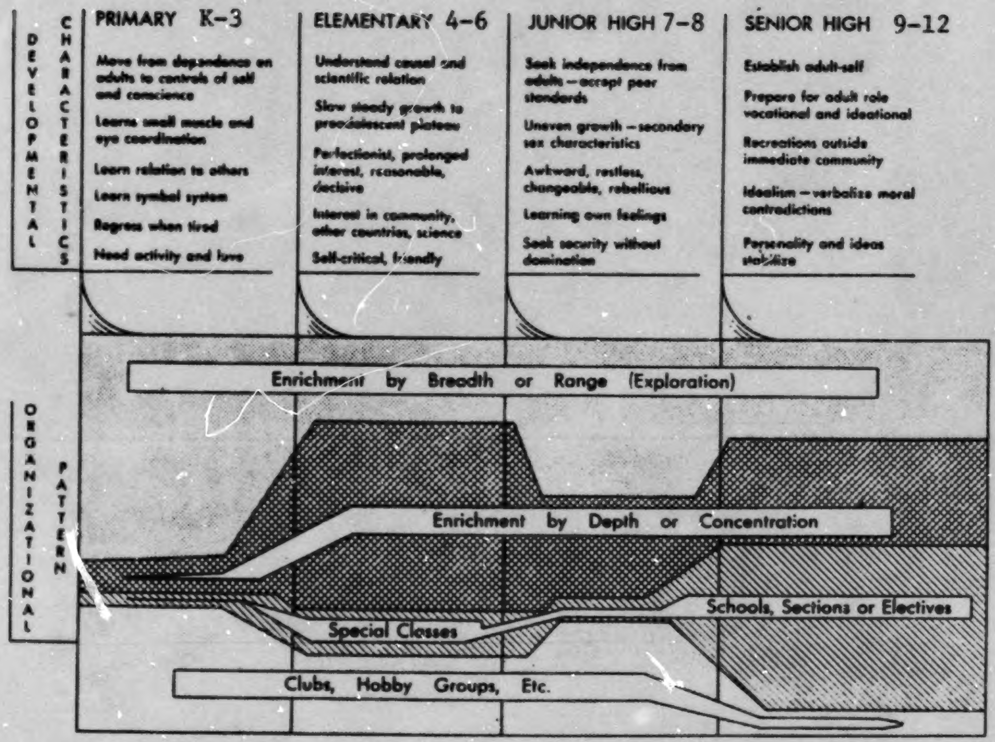
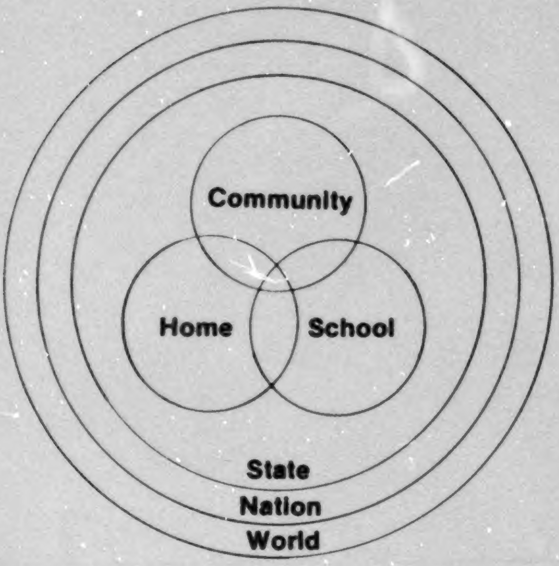

DEVELOPMENTAL CHARACTERISTICS
PRIMARY K–3
Move from dependence on adults to controls of self and conscience
Learns small muscle and eye coordination
Learn relation to others
Learn symbol system
Regress when tired
Need activity and love
ELEMENTARY 4–6
Understand causal and scientific relation
Slow steady growth to preadolescent plateau
Perfectionist, prolonged interest, reasonable, decisive
Interest in community, other countries, science
Self-critical, friendly
JUNIOR HIGH 7–8
Seek independence from adults—accept peer standards
Uneven growth—secondary sex characteristics
Awkward, restless, changeable, rebellious
Learning own feelings
Seek security without domination
SENIOR HIGH 9–12
Establish adult-self
Prepare for adult role vocational and ideational
Recreations outside immediate community
Idealism—verbalize moral contradictions
Personality and ideas stabilize
ORGANIZATIONAL PATTERN
Enrichment by Breadth or Range (Exploration)
Enrichment by Depth or Concentration
Schools, Sections or Electives
Special Classes
Clubs, Hobby Groups, Etc.

Figure 1

Distribution of Devices for Enrichment

From Maurice F. Freehill, Gifted Children: Their Psychology and Education, 1982, p. 241. Printed with permission from the National/State Leadership Training Institute on the Gifted and the Talented (N/S-LTI-G/T), Office of the Superintendent of Ventura County Schools, Ventura, California.

Overview of Gifted and Talented Program


Community
Home
School
State
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World

A Synergistic Approach

Pearl Ching, '83

1. Goals and Objectives
2. G/T Identification
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4. Needs Assessment
5. **Differentiated Curriculum**
6. Instruction in the Disciplines
7. Unit and Lesson Planning
8. Implementation of Plans
9. Student Products and Performances
10. Evaluation

V. DIFFERENTIATED CURRICULUM FOR GIFTED AND TALENTED PROGRAMS

In the past, the development of gifted and talented programs was probably discouraged or impeded most by the popular assumption that these students could be successful no matter what they were provided or not provided. "They can make it on their own" has been a common attitude or assumption by many. The problem of providing "equally suitable" rather than "identical treatment" for each student has been a very difficult one for schools. Margaret Mead has noted that there is a consistent tendency for those in our society to resent or undervalue those who succeed easily. There seems to be a feeling that success is better after a long, hard climb.

According to the United States Office of Education in 1976,[4] there are three basic elements that are needed to make the education and/or service for the gifted and talented responsively different for these students in accordance with their characteristics:

1. a curriculum at more advanced and higher levels,
2. various teaching styles to match the various learning styles, and
3. flexible administrative arrangements for instruction in and out of school.

In 1982, the National Curriculum Council[5] developed the "Guiding Principles of a Differentiated Curriculum for the Gifted and Talented" to help school personnel in planning for the gifted and talented students.

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[4] Curricula for Gifted, National/State Leadership Training Institute on the Gifted and Talented, California.

[5] Guiding Principles of a Differentiated Curriculum for the Gifted and Talented, James Gallagher, Sandra Kaplan, Harry Passow, Joseph Renzulli, Irving Sato, Dorothy Sisk, Paul Torrance, and James Wickless, 1982.

1. The content should focus on and be organized to include more elaborate, complex and in-depth study of major ideas, problems, and themes that integrate knowledge with and across systems of thought.
2. There should be development and application of productive thinking skills to enable students to reconceptualize existing knowledge and/or generate new knowledge.
3. There should be exploration of constantly changing knowledge and information and development of the attitude that this knowledge is worth pursuing.
4. There should be exposure to selection and use of appropriate and specialized resources.
5. There should be promotion of self-initiated and self-directed learning and growth.
6. There should be development of self-understanding and the understanding of one's relation to persons, societal institutions, nature and culture.
7. Evaluations should be in accordance with prior stated principles, stressing higher-level thinking skills, creativity, and excellence in performance and products.

Dr. June Maker[6] has reviewed the works of several educators who are knowledgeable in the field of gifted and talented and synthesized these works into organized formats to help tailor or match the special student characteristics to the various instructional elements of content, process, product and learning environment. These elements should be mixed and matched accordingly. She has found that more advanced content include the elements of abstractness, complexity, variety, organization, economy, study of creative productions of people and methods of the area of study. Elements of various processes or methods include higher level thought, open-endedness, discovery, proof/reasoning, freedom of choice, group interaction, pacing and variety. For development of products, consideration must be given to real problems, real audiences, evaluation and tranformation; and the learning environment should be student centered with student independence, openness, acceptance, complexity and high mobility.

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[6] Curriculum Development for the Gifted by C. June Maker, 1982

As an example, if students are self-assertive and stubborn in beliefs, a "match" would need to address the processes/methods of instruction by providing for higher level thought, open-endedness, discovery, proof/reasoning and freedom of choice as well as evaluation of student products. In additon, there should be provision for creating a learning environment that is student-centered and encourages independent study. See pages 62 and 63.

Some may think that what is good for the gifted will also be good for all children. However, the differences will be in entry levels, time spans for achievement, in breadth and depth of content, in degrees of teaching-learning strategies, and involvement of a wider variety and amount of experiences as well as some that are uniquely different. There are some activities that the gifted and talented would find very stimulating and challenging, whereas the other students would find very frustrating and devastating.

It is important to remember that a differentiated program for the gifted is not one of provisions that are unrelated to the curriculum or a hodge podge of games, trips, performances and activities of questionable educational value. A gifted program is not merely changes in materials, grouping and administration, although these may also be necessary. The goal is to provide a program with scope, sequence and developmental continuity. The activities should be an integral part of the total school program and the Department's Foundation Program. Of special significance for the gifted and talented are the objectives to develop their leadership qualities, their creative abilities and independent study skills. The students need opportunities for open blocks of time, opportunities for consultation in and out of the school setting, opportunities to waive lessons/courses already mastered and opportunities to apply their academic and creative abilities and to produce their own ideas and products.

Although schools may have established a gifted program such as a pull-out, resource room, mentor or independent study program, it is important to understand that the special program will not meet all of the needs of these gifted and talented students. There needs to be a sense of total faculty "ownership" in the gifted program. Since the major portion of most identified students' time is spent in the regular classroom, it is crucial that there is a sharing of responsibilities. Many activities, games and materials can be shared. Through a joint working relationship, the teacher of the gifted and the regular classroom teacher can make better plans for curriculum compacting (mastery of standard competencies, plus challenging learning experiences).

To provide such an enriched and extended curriculum, the teacher needs to have a wide knowledge of alternatives to teaching models, standards, methods, and materials.

CONTENT MODIFICATION

To differentiate curricula for gifted and talented, one can develop new curricula or modify the regular curricula by adding, deleting, extending or compacting. It is recommended that the regular curricula be modified in content, process, product and learning environment.

The content includes the ideas, concepts, facts or generalizations taught to the students. The content may be presented in various forms: figural-concrete items or shapes (art, physical education); symbolic - letters, numbers, or symbols (math, music); semantic - words or abstract ideas (languages); behavioral information about people's actions (social sciences and sciences).

To accommodate their characteristics, the gifted and talented need to be taught content that has:

1. More abstractness by using generalizations which include two or more concepts that are interrelated and having broad applicability. A substantive generalization is a broad inclusive statement which serves as a principle or rule e.g., A division of labor leads to increased productivity and a rising standard of living.

2. More complexity - A more complex generalization has more concepts, more relationships, more disciplines or fields and integrates more diverse knowledge.

3. More variety - To prevent boredom and respond to many interests, the scope of study should extend to the general nature of all areas of knowledge.

4. Organization and economy - Study should be organized around the basic concepts or substantive generalizations that represent the most necessary understandings about a subject or field. Recommended is a spiral curriculum on which an idea is introduced at different levels and expanded each time. The degree of abstraction is increased as children become more capable of understanding abstract ideas and have a wider range of experiences.

5. Study of People - Studies may be an in-depth study of one person or comparisons of people in a particular field, persons in the past compared to present, persons in different careers from different cultural groups, different sexes, with handicaps, etc. Students can learn about problems unique to gifted and talented and how others solved them; about personal success and social success expectations of self and others; and how to cope with the perception of being different.

6. Methods of inquiry - Studies are made of the various methods of inquiry in the different disciplines and how substantive information is gathered by the different systems.

PROCESS MODIFICATIONS

Process or methodology is the way students are taught and involves how materials are presented, what and how questions are asked and what is expected of an individual, group or entire class. The gifted need to use:

1. Higher level thinking skills of analysis, synthesis, and evaluation, which emphasize use rather than mere acquisition of knowledge. Strategies* include using:
    a. Bloom's (1956) six levels of cognitive processes - knowledge or recall, comprehension, application, analyses, syntheses and evaluation.
    b. Krathwohl, Bloom and Masia's (1964) five levels of affective processes - receiving, responding, valuing, organizing, and characterizing.
    c. Bruner's (1960) three learning episodes - acquisition, transformation, evaluation.
    d. Parnes' (1966) five steps of creative problem solving - fact finding, problem finding, idea finding, solution finding, acceptance finding.
    e. Kohlberg's (1966) six levels of moral reasoning - obedience and punishment, instrumental relativist, interpersonal concordance, "law and order", social contract/legalistic and universal ethical principle.
    f. Taba's (1964) four types of thinking clusters - concept development, interpretation of data, application of generalizations, resolution of conflict.
    g. Taylor's et al (1971) - thinking skills for six talent areas - academic, creative, decision-making, planning, forecasting, communication.
    h. William's (1970) four thinking skills - fluency flexibility, originality, elaboration, and four feeling processes - curiosity, risk-taking, complexity, imagination.
    i. Guilford's (1967) five operations - cognition, memory, divergent production, convergent production, evaluation.

* See the chart on these models on page 62.

2. Open-endedness

   Students need encouragement to question and to interact with each other. The flow of interaction should be from teacher to student and student to teacher.

3. Discovery

   Students need encouragement to form hypotheses and make informed guesses. Students are encouraged to demonstrate their understanding through applying ideas or solving problems, rather than simply verbalizing their discoveries.

4. Proof and evidence of reasoning

   Students need to express the logic or reasoning process they use in arriving at their conclusions, especially if they tend to cover up lack of knowledge by using a large vocabulary.

5. Freedom of choice

   For responsibility and independence, students need to be given opportunities to handle or profit from the freedom given and the degree and kind of freedom allowed. Treffinger's model guides students from teacher-directed to self-directed studies.

6. Group Interaction activities and simulation

   For leadership skills, problem solving and interpersonal skills, students need to experience simulations and group activities to use self-analyses and to accept critiques by others. Videotapes or audiotapes are recommended.

7. Pacing and variety

   Students need a faster pace with variety of new material. They can assimilate information, perceive principles and master material in one-fifth the usual time. To provide variety, use discussions, logic and simulation games, films, committee projects, etc.

PRODUCT MODIFICATIONS

High-quality products are expected from gifted and talented students. These may be ideas, research reports, dances, musical compositions, books, displays, slide-tape presentations, skits, maps, videotapes, and so on. As a result of investigating something of their own interest and choosing, the students' "professional type" products have real meaning for them. The intent of the products is to have some impact on real audiences, and not limiting the audience to the teacher, parent, school or home.

To help students focus on real problems, teachers need to ask provocative and leading questions. Renzulli and Parnes have developed key steps and questions to narrow and broaden the focus. Koberg and Bagnall[7] suggest several methods for analyzing problems such as synectics, attribute listing, matrices, squeeze and stretch and others; and several methods for defining problems such as essence-finding, whys, king of the mountain, talk it out, and others.

Products of the gifted and talented students can be expected to be more than summaries or thoughts of others. Students should transform information by using a different perspective or view in reinterpretation, elaboration, extension, or combination. At the highest level, implication, prediction, and recommendation should also be expected in reports or products. To be able to produce such quality products, the students will need to learn to synthesize all information and research data, transform all of this through their own thinking and perceptions and create (adapt, improve or modify) their very own product. In essence they will be producing new knowledge, very similar to those of creative, productive professionals.

Worksheets by Renzulli and Parnes and checklists by Koberg and Bagnall provide valuable suggestions for planning products and performances for real audiences, including problem solving skills, communication skills, display and media techniques.[8]

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[7] A Soft-Systems Guide to Creativity, Problem Solving and the Process of Reaching Goals, Koberg and Bagnall, 1976.

[8] Curriculum Development for the Gifted, C. June Maker, p. 68-74

Guilford provides some help in differentiating the differences in products through his explanations of units, classes, relations, systems, transformations, and implications. Torrance and others have developed ways for developing high quality creative products.

For student progress, it is essential that the teacher, the student and audience evaluate these student products by pre-established criteria; for many students need to develop skills in assessment and to learn how to accept and use realistic and critical suggestions from others.

LEARNING ENVIRONMENT MODIFICATIONS

To facilitate learning, the environment for gifted and talented students needs to reflect the following:

1. Student-centered
    - a. Emphasis is on students' ideas, interests, and needs.
    - b. Judgments and decisions focus on ideas and logic.
    - c. Much time is given for student talk and interaction.
    - d. No pressure is made for right answers.
    - e. Teacher is a facilitator.

2. Independence
    - a. Freedom of choice is given.
    - b. Student initiative is encouraged.
    - c. Students propose their own solutions to problems in classroom.
    - d. Students develop their own system for classroom management.
    - e. Students establish their own due dates and penalties.

3. Open
    - a. Environment changes when necessary or desirable.
    - b. Classroom is open to new people, materials, and things.
    - c. Persons are open to new ideas and exploratory discussions.
    - d. Persons are free to change directions or procedures.

4. Accepting
    - a. Absence of judgment is a rule.
    - b. Sincere attempt is made to understand feelings, values, beliefs.
    - c. Attending behaviors are made verbally and non-verbally.

5. Appropriate Timing
    - a. Questions of challenge is done for refocusing and rethinking.
    - b. No evaluation is made when problem solving.

6. Complex
    - a. Complex intellectual tasks are provided.

b. Complex physical environment includes a variety of materials and colors, asymmetric arrangements, different types of spaces, specialized equipment, reference resources and sophisticated materials such as calculators, computers, videotapes, etc.

7. High Mobility
   a. Flexible environment allows a great deal of movement in and out of the classroom and has differing group arrangements.
   b. There is access to a variety of learning/investigating environment.
   c. There is access to a variety of materials, references and equipment.

The essentials for modifying the content, process, product, and learning environment in accordance with the characteristics of gifted and talented are provided in the following chart based on C. June Maker's Curriculum Development for the Gifted on pages 62 and 63.

LEARNING STYLES AND EXPERIENCES

Since there are many individual differences, teachers need to assess the students' preferred learning styles as well as their own teaching styles. Opportunities should be provided for various ways of learning, such as visual, audio or kinesthetic and should also consider whether the student and teacher are "left" or "right" brain dominant individuals.*

Learning Styles
(Right or Left Brain Dominance)

- Projects
- Simulations
- Peer teaching
- Games
- Lectures
- Independent Study
- Programmed and Computer Instruction
- Recitation and drill
- Others

The learning experiences are most meaningful and long-lasting when there is a high degree of active participation and use of all senses in an open, pleasant, and conducive environment.

Learning Experiences
(1 - Low, 8 - High)

1 - Reading
2 - Listening
3 - Graphic Displays
4 - Films, Videotapes, ETV
5 - Live demonstrations
6 - Study or Field Trips
7 - Simulations
8 - Real Life experiences

-National/State Leadership
Training Institute for Gifted
and Talented, 1978

*Note: For information refer to 4-MAT System by Bernice McCarthy and The Brain: The Last Frontier by Richard Restak

DIFFERENTIATING CONTENT, PROCESS, PRODUCT AND LEARNING ENVIRONMENT FOR GIFTED AND TALENTED

CONTENT

WHAT IS TAUGHT TO ENHANCE/EXTEND:	ABSTRACTNESS	COMPLEXITY	VARIETY	ORGANIZATION/ ECONOMY	STUDY OF PEOPLE	METHODS OF INQUIRY BY SCHOLARS/ LEADERS IN VARIOUS DISCIPLINES
Characteristics of Students	Possess large storehouse of information Quick mastery and recall of factual info Rapid insight into cause of effect, relationships Desire to understand underlying principles High level of vocabulary development Extensive reading		Easily bored Prefer to work independently Interested in many topics	Need fewer learning experiences Less data to understand	Natural interest in people Emotional Sensitive Similar needs	Adult level interests Desire to organize and structure Tendency toward constructive criticism Leadership abilities
Modification of CONTENT	Focus on generalization Concepts rather than Data/Facts	More concepts More relationships More disciplines More diverse areas of study	Studies topics beyond basics which extend to all branches of knowledge	Organize content around central ideas that represent most necessary understandings about a subject	Personal, career, social characteristics; Problems & how resolved	Structure or thought systems of disciplines e.g., mathematical thinking

PROCESS

HOW IT IS TAUGHT TO ENHANCE/EXTEND:	HIGHER LEVELS OF THINKING	OPEN ENDEDNESS	DISCOVERY	PROOF/EVIDENCE	FREEDOM OF CHOICE	GROUP INTERACTION	PACING/ VARIETY
Characteristics of Students	Do not need much practice in acquiring knowledge Need for challenge. Need for practice in using appropriate information.		Awareness of more aspects of situations	Intellectual bluffing	Intrinsically motivated		
Modification of PROCESSES	Evaluation Synthesis Analysis Bruner-3 Learning Episodes Darnes CPSI- 5 steps Kohlberg- 6 moral reasoning Taba- 4 thinking clusters Taylor- 6 talent areas Williams- 4 thinking/4 feeling processes Guilford- 5 operations	Provocative questioning. Many responses. Student-student interaction. Encouraging questions.	Inductive reasoning of underlying principle. Form hypotheses. Glickman-inquiry Womack-Taba-necessary for productive research	Cite evidence for statements and conclusions. Analysis of problem and evaluation of process.	Ind. study Learning Ctr. Contracts Treffinger Decides content, process, product and evaluation	Simulations Self-analysis Critique of others. (Fishbowl)	Less time to introduce new material, not less time to think. Less time to assimilate information

PRODUCT

Characteristics of Students	Rapid insight, intrinsically motivated, self-critical, creative-curious, leadership qualities		Strives toward perfection Self-critical Stubbornness	
WHAT IS PRODUCED:	QUALITY PRODUCTS	REAL PROBLEMS AND REAL AUDIENCES	APPROPRIATE EVALUATION	TRANSFORMATIONS AND IMPLICATIONS
Modification of PRODUCT	Ideas, Research reports Dances Musical compositions Display constructions Slide-tapes Books Dramatic productions	Renzulli Guilford and Torrance Focus on real problems Analysis- Definition- Directing problems toward Real Audiences- Parnes - Atewood - Kolberg and Bagnall Communication, media	Assessment by teacher Student self-evaluation Evaluation by real audience Need for realistic and comprehensive evaluations	Original research rather than summaries involves collection, analysis, synthesis and interpretation. __Transformations__ are changes of known information in meaning, significance, use, interpretation, mood, or sensory qualities. __Implications__ are expectancies, anticipations and predictions. Use of raw data criteria: View from different perspective, reinterpreting, elaborating, extending, combining synthesis, generalizing.

LEARNING ENVIRONMENT

Characteristics of Students	Assess where students are and value going beyond acquisition of knowledge	Prefer Ind. Work	Divergent	Intellectual playfulness, imagination, fantasy		
WHAT CLIMATE IS SET:	STUDENT-CENTERED	INDEPENDENT	OPEN	ACCEPTING	COMPLEX	HIGHLY MOBILE
Modification of LEARNING ENVIRONMENT	Major focus on students' ideas & interests. Discussions on mainly student to student talk. Teacher talk only 40% or less. Teacher is not final authority. Approach is in realm of ideas and logic	Degree of tolerance for and encouragement of student initiative	Permits new people, new materials and new things to enter. Exploratory discussions. Freedom to change directions or procedures	Absence of judgement. Attempting to understand ideas are valuable and respected. __Timing__- wait until quantity of ideas is produced. __Evaluation__ consideration of good/bad, right & wrong, constructive criticism- how it can be improved	Variety of materials, colors. Many types of spaces, asymmetric arrangements, special equipment Variety of references	Movement in/out of class. Different grouping arrangements. Variety of learning environments Variety of materials references and equipment.

Pearl Ching 1983

HAWAII DISTRICT'S CRITERIA FOR QUALITY GIFTED PROGRAMS

YES NO CONTENT

___ ___ 1. Do you identify and teach the key concepts, themes, and underlying ideas that are important to the understanding of content areas?

___ ___ 2. Do you relate your content area to other content areas?

___ ___ 3. Does your curriculum relate to and build on regular education content?

___ ___ 4. Do you include topics and coursework, including controversial ideas, that are not usually part of the curriculum?

___ ___ 5. Do you require students to study topics in more depth?

___ ___ 6. Do you accelerate content or teach a grade or two above grade level?

___ ___ 7. Do you teach the methods of investigation used by experts in each discipline as well as those common to several disciplines (e.g., scientific method, historical research, interview techniques, library research techniques, and methods of mathematical proof)?

___ ___ 8. Do you include the study of lives of creative and gifted people in your curriculum?

PROCESS/METHODS

___ ___ 1. Do you accept divergent responses in discussions, tests, and/or products (e.g., accepting a variety of answers rather than "pat" answers, giving credit on tests for the correct procedure as well as the correct answer, accepting products that are different from what you expected)?

___ ___ 2. Do you provide experiences that allow students to explore further or respond in different ways?

___ ___ 3. Do you use directed inquiry more often than lecture?

___ ___ 4. Do you guide independent explorations?

___ ___ 5. Do you provide opportunities for first-hand research using the methods of investigation employed by experts?

___ ___ 6. Do you allow students to choose or suggest areas of study?

___ ___ 7. Do you include advanced self-paced, self-directed materials and experiences?

YES NO

___ ___ 8. Do you apply at least one theory of higher-level thinking in activities and evaluative procedures used in the classroom?

___ ___ 9. Do your lessons teach students to use creative, critical, and productive thinking (e.g., creative thinking, creative problem-solving exercises)?

___ ___ 10. Do you provide guided practice for students to transfer and apply their creative, critical, and productive thinking skills in the context of a content area?

PRODUCT

___ ___ 1. Do you teach students to develop products that refine and challenge existing ideas or incorporate innovative ideas?

___ ___ 2. Do you teach students to develop products that utilize techniques, materials, forms, and a body of knowledge in a unique way?

___ ___ 3. Do you teach students to develop products as sophisticated as those used by professionals?

___ ___ 4. Do you teach students to develop products that demonstrate an application of basic information and methodology appropriate to the problem or question being investigated?

___ ___ 5. Do you teach students to develop products that demonstrate the use of critical and higher-level thinking skills?

___ ___ 6. Do you teach students to develop products that communicate effectively to an appropriate audience and meet acceptable standards?

___ ___ 7. Do you teach students to acknowledge information sources in a suitable way?

LEARNING ENVIRONMENT

___ ___ 1. Do you use [illegible]iable grouping to accommodate students' differences and/or encourage interaction?

___ ___ 2. Do you provide access to advanced resources in addition to a basic text?

___ ___ 3. Do you release students from your class for work in other areas?

___ ___ 4. Do you accept ideas different from your own or the majority of the students?

YES NO

___ ___ 5. Do you use parents and members of the community to provide opportunities to extend learning?

___ ___ 6. Do you provide an environment that develops self-respect, self-understanding, self-confidence, and self-motivation?

___ ___ 7. Do you teach tolerance of human differences, respect for the needs and rights of others, and recognition of the contributions of others?

--Developed in consultation with Dr. C. June Maker, 10/20/83.

A HOLISTIC APPROACH TO GIFTED AND TALENTED CURRICULUM

Alexander and Muia[9] present a holistic approach to a gifted and talented curriculum (Figure 2). Essential learning processes that they believe gifted and talented students will find useful and adaptable to the ever-changing needs of school and society are:

1. Perceiving - the way in which individuals view, interpret, and organize the world around them.
    a. Help the gifted and talented to see openly and in different ways, to organize and inter-relate information, and to form a total perspective.
2. Communicating - Beyond speaking, writing, or listening; also ability to interpret non-verbal information or symbols (math, science, art or music). Center of communication is the individual. It is up to the individual to receive, interpret and transmit ideas.
    a. Help the gifted and talented to listen, question, judge, and distinguish fact from opinion (critical thinking).
    b. Help the gifted and talented to reorganize main/supporting ideas, recalling and transmitting information in varied and appropriate formats.
3. Loving - Learning requires the gifted and talented to function in a social context with others. Emotional interactions are frequently intertwined with concepts, facts and thoughts; it is impossible to separate intellectual activities from the social and emotional ties.
    a. Provide the gifted and talented with opportunities to interact with others of differing ages, abilities, beliefs, interests, and behaviors.
    b. Teachers are role models and should share their feelings, ideas, and beliefs and show how to be honest. Teachers should act as they want their students to behave.
4. Decision-making - Learn to make wise decisions. Experience in decision making is frequently the best teacher. Students could have input in their assignments, activities and evaluation.

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[9] Gifted Education, P. Alexander and J. Muia, Aspen Publishers, 1982.

Help the gifted and talented to learn that:

a. Decisions vary in complexity, and priorities must be considered.

b. External conditions and consequences must be balanced against internal desires and motivations.

c. Information is appropriate in certain situations, where such knowledge could be found and how much information to seek.

d. No decision is without risks.

e. Some frustration and disappointment might be expected when students accept responsibilities; but they should strive to grow from their mistakes and the consequences of their decisions.

5. Knowing - having or reflecting knowledge, information or intelligence. Help the gifted and talented to develop:

   a. the skill of knowing how to learn.

   b. an ever expanding body of knowledge through many educational experiences.

   c. skills to assimilate and accommodate new information (focusing on underlying concepts, ideas and generalizations).

6. Patterning - Knowledge which is classified and categorized into information networks. Help the gifted and talented to learn to:

   a. look over amounts of information and sense some pattern or system.

   b. classify/categorize schemas for a manageable framework.

   c. become more proficient receivers, organizers and retrievers of knowledge.

7. Valuing - Guiding precepts or internalized principles used for people's behavior. Help the gifted and talented to learn that valuing:

   a. leads one to the recognition and formulation of internalized set of principles that direct one's own actions.

   b. is a slow, continuous process, generally influenced by external factors such as parental relationships, cultural heritage, religious training and equally molded by internal forces such as emotional stability, openness to change and flexibility, perceptual intensity and personal aims or motivations.

c. includes awareness of their values so they can compare them with other beliefs/biases. They may also understand how and why values change and keep a balance between individual values for a common good.

8. Creating - Producing unique/original expressions through special skills/talents and cognitive skills. Help the gifted and talented to be willing to take necessary risks and to have:
   a. Richness of experiences.
   b. A learning environment which accepts and encourages creative expression.
   c. Flexibility and openness.
   d. Some private time to create.
   e. Criteria for evaluation of their products and performances.

The Holistic Curriculum

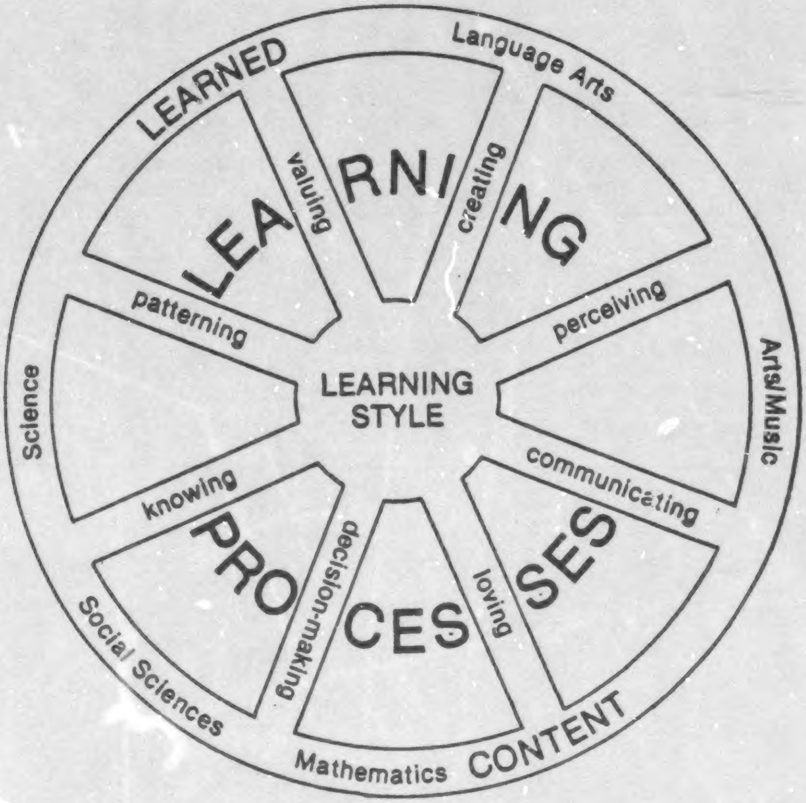
LEARNED
Language Arts
Arts/Music
CONTENT
Mathematics
Social Sciences
Science
LEARNING PROCESSES
valuing
creating
perceiving
communicating
loving
decision-making
knowing
patterning
LEARNING STYLE

FIGURE 2

Patricia A. Alexander and Joseph A. Muia, Gifted Education, A Comprehensive Roadmap, "The Holistic Curriculum" 1982. Reprinted with permission of Aspen Systems Corporation, Rockville, Maryland 20850.

TEACHING LEARNING MODELS

There is no one model or method that will address all of the aforementioned elements and principles of differentiated curricula. Educators will always need to assess their program goals, their students, and their situations before selecting a teaching-learning model or a composite of models. Knowledge and use of the various teaching-learning models are essential to enhance any program. The following chart is based on C. June Maker's TEACHING MODELS IN EDUCATION OF THE GIFTED.

TEACHING LEARNING MODELS

MODEL	APPROACH	ADVANTAGE	DISADVANTAGE
BLOOM & KRATHWOHL: Taxonomies of Cognitive and Affective Education to classify levels of thinking and feeling.	Cognitive levels: Knowledge, comprehension, application, analysis, synthesis and evaluation. Affective levels: Receiving, responding, valuing, organization, characterization.	Widespread use, simple and applicable, related uses for developing measurable objectives and testing, available handbooks, hierarchical/sequential.	Lack of research with gifted, limited mainly to content/process, much use in regular curriculum, not intuitive.
BRUNER: Basic Structure of Academic Disciplines to teach any subject in some form to any child.	Spiral curriculum: Structure matched to level of development of child and retaught with more complexity at higher levels, e.g., math commutation, distribution and association.	Uses intuition, a total approach, effective for gifted, variety of materials available.	Teaching of structure and abstract concepts is difficult, basic concepts vary, need for latest information and theoretical development in a field.
GUILFORD & MEEKER: Structure of Intellect to identify and improve basic intellectual abilities (120)	Content, mental operations and project: Figural, cognition, units, semantic, memory, classes, symbolic, convergent, relations, divergent, systems, transformations, behavioral, evaluation, implications.	Diagnosis and develops appropriate programs for gifted with learning problems; IEPs can be developed; analyses for career. Workbooks, computer analyses and inservice materials available.	Not much creativity, lack of research on validity, lacks total framework, methods limit results.

MODEL	APPROACH	ADVANTAGE	DISADVANTAGE
KOHLBERG: Moral Dilemmas to develop universal ethical principles or moral reasoning.	Class discussion(cognitive), moral reasoning for 6 levels: Obedience and punishment, instrumental relativist, interpersonal concordance, law and order, social contract/legalistic, universal ethical.	Discussion of abstract, complex, moral issues; combines issues with other areas of curriculum; better than indoctrination and values clarification.	Unclear what causes positive change, no sequence or structure to follow, lack of guidelines for use of dilemmas.
PARNES: Creative Problem Solving to develop creative and effective solutions and creative behavior.	Sequential process (5 levels): Fact finding, problem finding, idea finding, solution finding, acceptance finding.	Valid, can be used in any content, can solve practical problems in business, industry and daily life, easily transferable, for all ages, wide variety of materials, teacher training available, gifted enjoy the process.	Difficult to justify for only gifted, over-emphasis on inspiration and imagination in idea finding.
RENZULLI: Enrichment Triad to distinguish qualitatively different programs for gifted.	Three types of activities: General exploratory activities, group training activities, individual and small group investigations of real problems.	Simple to understand; designed for gifted; based on research about gifted and talented characteristics; relates to regular curriculum and need for basic competencies; guidelines available for content, process, product and learning environment; framework to integrate others.	Lack of research on effectiveness as a total approach; selection of those who show most potential; concepts of giftedness based on adults; difficult to assess task commitment and creativity; skills required are complex for teachers; few materials available.

MODEL	APPROACH	ADVANTAGE	DISADVANTAGE
TABA: Teaching Strategies to develop abstract reasoning skills with open-ended and focused questions.	Concept development; Interpretation of data; Application of generalizations; interpretations of feelings, attitudes and values.	Strong research base; excellent teacher training program; curriculum available; generalizable and transferable; easy to combine with Bruner, Kohlberg, Renzulli and Treffinger; comprehensive. Students learn to validate their thinking and conclusions.	Difficult for teachers to learn and takes time to internalize; training manuals are presently out of print and expensive.
TAYLOR: Multiple Talents to develop talents of all with awareness of their weaknesses	Talent areas for development: academic, creative, planning, communication, forecasting, decision making.	Relevance to real world activities; development of more well-rounded students; multidimensional view, practical positive way to reach all children; easy to implement; classroom tested books available; inexpensive materials.	Difficult to justify funding for 50 percent of students; lack of research; talent areas are not mutually exclusive or well defined; overlapping of subskills.
TREFFINGER: Self-directed learning to develop independent learning skills	Teacher prescribes for class/students; teacher creates options; students and teachers create choices; student creates, chooses options.	Considers present and future characteristics of gifted; can enhance success of other models; concentrates on practical skills of inquiry, management of time, sequencing, resources and freedom of choice; students can do self-directed learning.	Lack of research on effectiveness over time; requires teachers to move from directive to facilitating role; parental pressure can create negative factors; difficult to implement.

MODEL	APPROACH	ADVANTAGE	DISADVANTAGE
WILLIAMS: Teaching Strategies for Thinking and Feeling to enhance cognitive and affective processes involved in creativity and productivity.	Pupil behaviors) Curriculum) Teacher behaviors) Thinking processes: Fluency, flexibility, originality, elaboration. Feeling processes: Curiosity, risk-taking, complexity, imagination.	Unique combination of thinking and feeling behaviors; concentrates on a specific and well defined set of behaviors; emphasis on open-endedness of learning experiences and teacher questions; advocates an individualized approach; provides teachers with practical aids; tests and observational procedures are available for pre-post assessment of creative behaviors; inservice kit and material available for self study or group study.	Field-tested but no research on effectiveness; lack of empirical or logical "power", lack of comprehensiveness; concentrates on a limited range of behaviors.

Pearl Ching 1983

Criteria for assessing the appropriateness of model(s) as stated by C. June Maker are:

1. Appropriateness to the Situation
   Does it match the needs of students, school philosophy, parental values and teacher characteristics? Do the assumptions fit reality?
2. Comprehensiveness
   What modifications are provided for the gifted?
3. Flexibility or Adaptability
   How can it be adapted to all subjects and programs?
4. Practicality
   What materials are available, cost, and needs for in-service training?
5. Validity
   Is there evidence of effectiveness through research?

Sandra Kaplan provides helpful descriptions and examples for differentiating the curricular activities in content processes, use of resources, use of time and products on the following pages.

DIFFERENTIATING CURRICULAR ACTIVITIES FOR THE GIFTED AND TALENTED

MEANS OF DIFFERENTIATING	EXPLANATION	ILLUSTRATION
1. Accelerated or advanced content	Working with knowledge and skills which correlate with the student's mental rather than chronological age, parallel his interests, and satisfy his need and quest for substantive information.	The student who is ready for algebra at nine-yearl-old level is given a tutor.
2. Higher degree of complexity of content	Allowing student performance to dictate speed, direction of learning. Learning experiences which require higher order thinking preocesses, such as analyzing, creating and evaluating. Learning experiences that require assimilation of principles, theories, and concepts associated with knowlege held by the "the professional or expert".	The student pursues the topic of Occults as an outgrowth of learning the expected topic of Mythology.
3. Introduction of content beyond the prescribed curriculum	Learning what is traditionally reserved for another grade or age level. Learning what is related to other areas or crosses the boandaries of the disciplines.	The student studies the cause and effect relationships of various forms of paternalism in people's voting pattern in different countries as an independent study within a U.S. history class.
4. Student-selected content according to interest	Allowing student need and interest to govern what is to be learned and/or to dictate what areas within a body of knowledge that will be studied.	The student interested in violin independently pursues the topic in a general music class by leaving his regular class in the elementary school to attend class at the high school.
5. Working with the abstract concepts in a content area	Dealing with those ideas, theories, and concepts which are inferred or discrete and which require reflective, critical, and creative thinking in order to make them concrete or give them meaning.	The student illustrates the ways a proverb is "lived" by a literary character.

MEANS OF DIFFERENTIATING	EXPLANATION	ILLUSTRATION
6. Level of resources	Allowing students to use resources beyond those reserved or designated for regular curriculum input.	The elementary student calls a college professor to obtain information regarding his questions in a particular subject.
7. Type of resources available	Insisting on acquiring information from multiple and varied resources which includes other informational sources besides books.	The student uses the yellow page telephone directory to find out who could be contacted to assist him in obtaining information regarding his study.
8. Appropriating a longer time for learning	Acknowledging that the student with multi-interests and abilities needs appropriate time to learn by defining his work schedule; recognizing that the student sometimes needs to pursue a topic or skill more extensively or to a greater degree of proficiency.	The student contracts with the teacher as a means of setting time limits on studying a topic. The student has additional time to experiment with properties in chemistry in order to discover or prove something he is interested in a more complex manner than is assigned to the other students in the class.
9. Creating or generating something new	Expressing additional examples, new and original alternatives and relationships, and possible solutions in either verbal or illustrative form to given issues, problems, and ideas.	The student, as a result of a study of current political issues, develops a new method to raise campaign funds for political office which is to be submitted to a Congressman for reaction.
10. Depth of learning providing alternative and related experience with recognition that the student requires fewer stages and less time to learn a concept.	Gathering information to a level of understanding which satisfies the attainment of a skill or idea, the quest for learning exhibited by the student and the objectives of the instructor.	The student engages in collecting and processing data which could clarify the meaning of loneliness as it applies to ethnic groups within American society.

MEANS OF DIFFERENTIATING	EXPLANATION	ILLUSTRATION
11. Transfer and application of learning to other and/or new areas of greater challenge	Applying what is learned to substantiate, negate, extend, or verify learnings in another area of the curriculum or another body of knowledge.	The student in a math study utilizes the process of multiplication to develop statistical predictions of how the country's food supply will accommodate the population explosion.
12. Evidence of personal growth or sophistication in attitude, appreciations, feelings	Cultivating and rewarding honest opinions and reactions, divergent responses, and questioning attitudes; incorporating learning about humaneness as a concomitant to learning a body of knowledge of a specific skill; learning how to assess and obtain feedback about "in" personal and academic endeavors.	The student makes a profile of famous men who were scholars in order to identify the traits he has in common with them.
13. Formulating new generalizations	Summarizing and developing new theories and ideas for what has been learned and which may be used at some other time.	The student summarizes all the data relative to World Wars I and II to formulate a new theory about a society's need for dominance
14. Development of higher level cognitive processes	Learning and practicing the skills related to the processes of analyzing, synthesizing, and evaluating as both separate processes and as processes which are part of the strategies of problem solving, critical thinking and creativity.	The student evaluates the need for learning about geology and presents his argument to the Board of Education.
15. Stylizing and implementing a student study design	Recognizing and utilizing the skills of research and scientific exploration effectively in a given learning endeavor and finding out what style of learning is successful for the student.	The student organizes an outline for developing a position paper on some aspect of the use of atoms

Kaplan, Sandra N. Providing Programs for the Gifted and Talented: A Handbook, 1974. Printed with permission from the National/State Leadership Training Institute on the Gifted and Talented (N/S-LTI-G/T), Office of the Superintendent of Ventura County Schools, Ventura, California.

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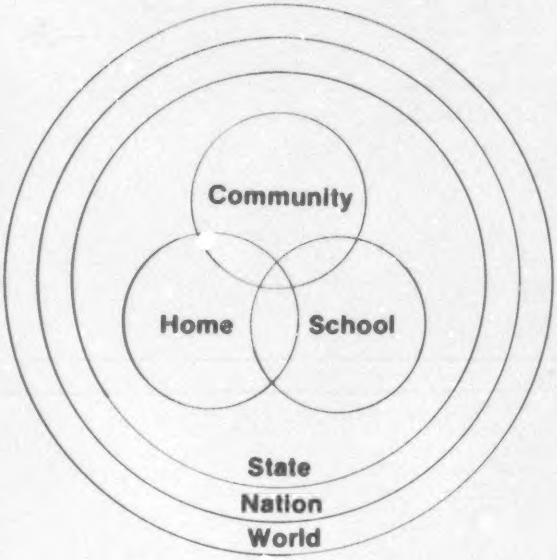
SOME SUGGESTED PRINCIPLES FOR PROGRAMMING FOR AFFECTIVE EDUCATION

- Help students become more aware of self and others.
- Promote realistic self-concepts, self-knowledge and understanding.
- Educate for feeling as well as fact.
- Promote interpersonal and social skills.
- Learn to use humanistic psychology, communication theory and perceptual psychology.
- Develop worthy values through discussion about issues.
- Recognize the stages of moral development.
- Provide real or fictional role models.
- Use games or other processes to help understand the environment and its problems and to take action for improvement.
- Expand student literacy to include other symbol systems.
- Use critical analyses of mass media.
- Understand the basic role of the arts.
- Assist the efforts of the family and church.
- Be rich in self-discovery.
- Be integrated with the total learning program.
- Study futuristics and envision desirable futures.
- Learn to weigh conflicting values and make decisions.
- Develop imagination and creativity.

Overview of Gifted and Talented Program


Community
Home
School
State
Nation
World

A Synergistic Approach

Pearl Ching, '83

1. Goals and Objectives
2. G/T Identification
3. Administrative Arrangements
4. Needs Assessment
5. Differentiated Curriculum
6. **Instruction in the Disciplines**
7. Unit and Lesson Planning
8. Implementation of Plans
9. Student Products and Performances
10. Evaluation

VI. INSTRUCTION IN THE DISCIPLINES

Alfred W. Whitehead[10] has stated that "The fading of ideals is sad evidence of the defeat of human endeavor. . . When ideals have sunk to the level of practice, the result is stagnation. So long as we conceive intellectual education as merely consisting in the acquirement of mechanical mental aptitudes, and of formulated statements of useful truths, there can be no progress. . . Though knowledge is one chief aim of intellectual education, there is another ingredient, vaguer but greater, and more dominating in its importance. The ancients called it 'wisdom'. You cannot be wise without some basis of knowledge, but you may easily acquire knowledge and remain bare of wisdom."

It is important that we make sure that the gifted and talented, from whom will come our leaders of tomorrow, are whole, humanistic individuals who are knowledgeable, sensitive, caring people, who are concerned for others.

The gifted and talented should be taught to speculate and deal with complexity and depths of meaning, not just popularity. They must learn respect for group rights and group authority without accepting the infallibility of majorities. Human life would be greatly impoverished if only the common experiences and the common insights were valued.

The issue is not just what is learned but how it is learned. Critical thinking, problem solving and evaluating will help the learners to be active and responsible agents in their own education.

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[10] The Aims of Education and Other Essays, Whitehead, Alfred W., New York, The Macmillan Co., 1929, pp. 45-46.

The gifted and talented have a special need to understand the history of their society, to know the rules and principles of the society, and be sensitive to inconsistencies in practice. When the unity of subjects is emphasized, when the students are encouraged to bring insight from one subject to another and when the learners participate actively in discovering solutions and evaluating them there is opportunity for philosophic development. Well taught, these courses will help to provide both a structure of beliefs and habits of critical thought.

There are three basic questions to ask if the curriculum and instruction are appropriate for the gifted and talented:

1. Would all children want to be involved in such learning experiences?
2. Could all children participate in such learning experiences?
3. Should all children be expected to succeed in such learning experiences?

Criteria for Qualitatively Different Activities in an Enrichment Program

1. Has a structure with a series of related activities and specific goal and objectives.
2. Provides guidance while allowing for student freedom in meeting individual abilities and needs.
3. Develops higher-level cognitive skills.
4. Develops reasoning through complex problems and helps in creating new ideas.
5. Increases self-awareness.
6. Develops students' awareness and understanding of others.

A Chart of Essential Curriculum Components for Gifted Students by Dr. Joyce Van Tassel-Baska on pages 84-85 suggests what gifted and talented students need to have for appropriate and different educational experiences. Dr. Van Tassel-Baska emphasizes that educators need to plan for programmatic interventions very carefully and consistently. Planning for specific content areas are essential to provide for the appropriate match for specific aptitudes.

She has found that more emphases should be placed on:

1. knowing what the student has already mastered;
2. concentrating on critical and creative thinking;
3. making relationships among disciplines;
4. guiding students, encouraging independent study and self-directed learning;
5. learning to examine their values and values of others;
6. grouping gifted students together at least part of every school day for "they enjoy most the opportunity to exchange ideas without fear of being laughed at or scorned;" and
7. including the arts to develop understanding of self and others, aesthetic judgment and enhance product development.

Curriculum development should be sequential in nature and accomplished in various stages. The scope should be broad-based and as comprehensive as possible, given the level of ability and interest of the child.

It is important also that programming is offered throughout the grades K through twelve in schools. Students have the right to expect the program to continue at each grade so they may continue to advance and grow, otherwise they may be adversely affected.

Since many gifted and talented students may not have had the "basics" in the regular classroom, some of the suggested activities listed for each subject area should be used as essential competencies for entry levels to more advanced work.

A CHART OF ESSENTIAL CURRICULUM COMPONENTS FOR GIFTED STUDENTS

GRADES K - 3	GRADES 4 - 6	GRADES 7 - 8	GRADES 9 - 12
1. Acceleration of content in reading and math at and above mastery level	1. Acceleration of all content areas at and above mastery level (reading, math, science, social studies, language arts, art, music)	1. Acceleration of content at and above mastery level in all basic content areas	1. Access to upper level courses at entry based on proficiency examination results Two-Three advanced placement courses according to strength areas (16 areas available) Two to four years of a foreign language.
2. Enrichment through: -Problem solving strategies -Science experimentation -Fun with computers -Expository and creative writing -Creative dramatics -Introduction of foreign languages e.g., Hawaiian, French -Development of critical and creative thinking skills -Learning of basic research on topics of interest -Interrelated arts (music, art, poetry) -Holt Data bank -Talents Unlimited	2. Enrichment through: -A computer literacy program -Foreign language instruction -Research projects -Theater arts -Junior Great Books -Art and music appreciation -Philosophy of children -Logic -Holt Data bank -Talents Unlimited -HEP Literature and Systems kits	2. Enrichment through: -Foreign language instruction -A course in logic -Selective reading and discussion groups -Humanities course -Writing computer programs -Advanced research projects	2. Enrichment through special courses and seminars such as: -Art appreciation -Music appreciation -Leadership -Psychology -Anthropology -Urban planning -Political science -Law -Creativity -Ascent of Man

GRADES K - 3	GRADES 4 - 6	GRADES 7 - 8	GRADES 9 - 12
3. A counseling program for parents and students on coping with giftedness	3. A counseling program for students and parents on: -Decison-making skills -Future course-taking and programs -Diagnosis and prescription of student needs	3. Counseling program in coping with giftedness for students and parents	3. Counseling programs that offer: -Career exploration through internships and mentorships -Psycho-social exploration of student strengths/weaknesses
4. Special instruction on: -Strategy games such as Chess -Individual sports -Interpretative reading	4. Interest clubs -Chess -Creative problem-solving -Sports -Reading -Writing -Science	4. Extra-curricular courses and interest area clubs -Future Problem Solving Bowl -Olympics of the Mind	4. Extra-curricular courses and interest area clubs -Future Problem Solving Bowl -Olympics of the Mind
5. Special projects with an assigned mentor	5. Special projects with an assigned mentor	5. Mentorships	5. Mentorships

An adaptation of a chart by Dr. Joyce Van Tassel-Baska.
NAGC Convention, 1983.

LANGUAGE ARTS

The gifted and talented are best taught in unit methods and are most capable of evaluating their own progress or designing their own plan of study.

Five major characteristics of language arts include:

1. Critical reading
2. Creative writing for free flow of ideas and development of values, rather than rules and techniques.
3. Functional development of language, e.g., purposeful writing - letters, poems, essays on real concerns or interests, techniques taught when need arises.
4. Enrichment/extension of literature.
5. Emphasis on creative writing and creative expression, including writing of class plays.

Recommendations:

1. Provide challenge of advanced books, fine literature and study of characters.
2. Encourage enthusiasm with well-loved poems, well-read stories, and visits with writers.
3. Extend experiences of writing plays, blank verse, surprise endings, onomatopoeia.
4. Provide a learning laboratory for spontaneous stories or dramatic contributions.
5. Develop various methods for note-taking, outlining, use of footnotes, abbreviations, scientific and cultural vocabulary.
6. Provide laboratory opportunities to correct minor and technical reading problems.
7. Demonstrate variability of rules.
8. Encourage imaginative expression.
9. Teach students to think.

Students should be actively involved in:

Perceiving - developing an awareness of self, understanding of signs and symbols as well as non-verbal communication, media literacy, communications theory, propaganda analysis, skills and understanding of other symbol systems as well as the written and spoken word.

Listening - skills which include listening for accuracy, for ideas, and with critical taste and judgment in order to prefer the authentic and imaginative over the stereotyped and contrived.

Because many gifted and talented students have mastered the basic skills, they should concentrate on areas of critical thinking, logic, and creative thinking skills in the areas of inference, assumption, deduction, interpretation, prediction, and evaluation. Besides exposure to literature in classrooms, students need to read newspapers, popular magazines, government reports, and so on.

Teachers must be careful to look at each student's mastery of skills for some gifted and talented students may have excellent ideas, reading and verbal skills, but may lack writing skills. The teacher needs to encourage creativity and also help those students to develop their expository writing skills and research skills.

For teachers of grades K - 3 students:

1. Encourage spontaneous story-telling, role playing, drama.
2. Discuss similarities, differences, and language patterns.
3. Instruct child in use of the tape recorder to recite and to create characters and stories and different endings.
4. Assist the child in speaking before all kinds of groups to develop poise.
5. Ask divergent thinking questions and provide time for problem solving and evaluation.

For grades 4 - 9 students:

1. Listening Skills: Judge the effectiveness of a speaker on the

basis of poise, actions and relationship with the audience. Analyze the content of a speech for organization, purpose and development of ideas.

2. Compare messages in a book or paper compared to similar message through visual or aural methods.
3. Learn to recognize propaganda and use primary source materials instead of textbooks as much as possible.
4. Literature Skills: Study mythology, fables, folklore, biography, and drama to learn of cultural values. Compare and evaluate different forms of literature and work of different authors.

For grades 10 - 12 students:

1. Reading of literary skills: Describe how the author developed a point of view in an editorial, poem, book or essay. Elaborate on the mood or tone expressed by the author and relate this to the plot or purpose of the writing. Evaluate the message or bias in a book report or a news release. Defend or attack it. Use organizational approaches of history and chronology, genre, textual analysis and theme.
2. Creative writing: Compare the styles of authors; note characters, sensory images, symbols. Express your impressions in terms of their relative effectiveness and readability. Use critical thinking and logic.
3. Remedial speech: Develop ideas, programs for helping those in need of language training or remediation.
4. Literature: Learn to predict consequences and make value judgments. Study the themes of heroism, temptation (Faust figure) and situational ethics (Prometheus). Compare heroes of yesterday and today and evaluate.

Recommended Resources for Language Arts

Language Arts Resources for the Gifted: An Annotated Bibliography, The Gifted Child Quarterly, Vol. XX No. 2, by Beverly J. Job and Patricia B. Campbell.

This is an excellent resource of special materials for gifted which are available and teacher tested. The materials were evaluated with several criteria in mind:

1. Did the materials challenge the student to further investigation?
2. Did activities challenge the student to think critically and/or creatively?
3. Were questions and suggested activities open-ended, requiring no "right" answer?
4. Were materials adaptable for use by students of varying abilities and interests?
5. Were materials designed for independent use?
6. Did materials contain sex-role stereotypes?

This annotated bibliography is very descriptive with publishers' names, addresses, and prices. It is categorized for easy reference:

1. Creative writing
2. Dramatics
3. Thinking skills
4. Humanities
5. Values clarification
6. Professional
7. Miscellaneous

Generally, the materials are appropriate for use with middle or upper elementary students, although a number of the materials can be adapted to any age group. Most are suitable for independent use, are open-ended and require divergent thinking.

Another good source is the library of books on Public Doublespeak from The National Council of Teachers of English.

Some possible topics for curriculum augmentation are as follows:

Language Arts and Communication Skills

- Semantics
- Debating
- Opera
- Speech
- Playwriting
- Typing
- Creative dramatics
- Creative writing
- Folk tales and songs
- Public speaking
- Future studies
- Science fiction
- Theater
- Games
- Critical thinking
- Word puzzle games
- Publication of writings
- The hero in literature
- Poetry
- Drama
- Literature
- Biography
- Great Books
- Programs
- Code making
- Cryptology
- Individual or group research
- Humanities
- Philosophy
- Mythology
- Non-verbal communication
- Vocabulary development
- Media-literacy
- Propaganda analysis
- Film or TV production
- Newspaper study
- Broadcasting
- Book illustration
- Magazine or book production
- Communications theory
- Advertising
- Study of the history of the English language
- Development of the alphabet
- News reporting
- Interviewing techniques
- Comparative mythology
- Puzzle making
- Superstition
- The Bible as literature

Some Language Arts Generalizations for Grades One to Eight

1. Understanding and mastery of the forms, structure and functions of language (productive and receptive) are used to order, explore, interpret, intensify, and share experience.
    a. Decoding skills enable full comprehension and appreciation of literature and other print material.
    b. The refinement of language skills (listening, speaking, reading, writing and spelling) enhances communication.
    c. The recognition and exploration of the systematic structure of language increases control over its production in written and spoken forms.
    d. Vocabulary development is an important facet in comprehending and producing language at an ever increasing level of sophistication and precision.
2. Decision-making and valuing result from a variety of listening, speaking, reading, and writing experiences.
3. Literature study provides an insight into the human condition and universal human concerns. Folk literature, folklore, historical and futuristic literature are of interest for their style and construction and their content which is related to social studies of past, present, and future issues. The study of biographies and autobiographies leads to a sensitivity for human values, an understanding of the way that personal and social aspects of life interact with external forces, and a greater ability to interpret historical events.
4. Understanding the techniques used by the mass media gives an awareness of its impact and influence on contemporary society.
5. Lifetime learning and study skills develop through emphasis on time management, organizational methods, and skills in reading, reference, and investigatory techniques. Specifically, library skills enable the location of reference and recreational print and non-print materials for research and personal enjoyment.

"Differentiating the Curriculum for Gifted and Talented Workshop", C. June Maker, Hawaii, 1983.

A Sample Collection of Books for Bibliotherapy

"Reprinted by permission from the
Gifted Child Quarterly" Spring, 1981

Bibliotherapy cannot solve all the problems faced by gifted students, but properly used, it offers rich possibilities for solving many existing problems and preventing many future ones. The following list is offered as a sampling of books that could be used to help gifted children deal with their problems. They are organized around three common problem areas with a brief annotation of the problem(s) encountered by the character(s) and the recommended grade level(s). The following key has been used: El-Elementary, M-Middle School, H-High School.

Personal Problems

Arthur, Ruth M. *Requiem for a princess;* illus. by Margery Gill. New York: Atheneum, 1967. (El-M)

Willow Forrester, an accomplished pianist wishes to continue her career in music. Music, as a vocational goal, however, is not understood by her parents. In the process of resolving this conflict, she finds out that she is adopted.

Cleaver, Vera, & Cleaver, Bill. *I would rather be a turnip.* Philadelphia: Lippincott, 1971. (El-M)

Calvin, an eight-year-old highly intelligent but illegitimate child, must face small town prejudices when he comes to live with his grandfather and teenage aunt.

Fitzhugh, Louise. *Nobody's family is going to change.* New York: Farrar, Strauss & Giroux, 1974. (El-M)

Emma, who is black and very intelligent, wants to become a lawyer. Her seven-year-old brother, Willie, wants to become a dancer. Their father is opposed to both of these career choices.

Gardam, Jane. *Bilgewater,* New York: Greenwillow, 1977. (M-H)

Marigold felt that she was very ugly. She also has had trouble with reading most of her life. In spite of this, she discovers that she is bright enough to be admitted to Cambridge.

Hamilton, Virginia. *The planet of Junior Brown.* New York: Macmillan, 1971. (M-H)

Junior Brown, a neurotic, 300-pound musical prodigy, must cope with an overprotective mother who has little appreciation for his musical ability.

Hunter, Mollie. *A sound of chariots.* New York: Harper, 1972. (M-H)

Birdie McShane's love of beautiful words and her desire to become a writer (a dream she shared with her father before his death) caused conflict with an unappreciative teacher.

Koningsburg, E. L. *From the mixed-up files of Mrs. Basil E. Frankweiler;* illus. by the author. New York: Atheneum, 1967. (El-M)

Claudia, extremely bright but feeling that she is being imposed upon at home, runs away to the Metropolitan Museum of Art.

Koningsburg, E. L. *George;* illus. by the author. New York: Atheneum, 1970. (M-H)

George is an invisible little man who lives inside of scientifically gifted Benjamin Carr. He helps Benjamin cope with many problems such as growing up gifted, being rejected by his step-mother, and a drug using friend.

LeGuin, Ursula K. *Very far away from anywhere else.* New York: Atheneum, 1976. (M-H)

Owen and Natalie are brilliant and talented and know what they want to do with their lives. But Owen's parents are totally incapable of understanding his goals.

Murphy, Shirley R. *Poor Jenny, bright as a penny.* New York: Viking, 1974. (El-M)

Jenny Middle, a bright fifteen year old, struggles to become a writer in spite of a very poor home environment.

Sobol, Donald J. *Encyclopedia Brown; boy detective.* Camden, N.J.: Thomas Nelson & Sons, 1963. (El)

Leroy, the brilliant son of a detective, is so good at solving cases that he is nicknamed Encyclopedia. But, in order not to seem different he attempts to hide his ability.

Stolz, Mary. *Lands end;* illus. by Dennis Hermanson. New York: Harper & Row, 1973. (M-H)

Twelve-year-old Joshua's determination to learn everything there is to learn is not understood by his parents.

Wojciechowska, Maia. *Shadow of a bull;* illus. by Alvin Smith. New York: Atheneium, 1964. (M-H)

Manolo's father had been a great bull fighter. Everyone expected Manolo to follow in his father's footsteps, but Manolo wanted to become a doctor.

Social Problems

Cameron, Eleanor. *A room of windows;* illus. by Trina Schart Hyman. Boston: Little, Brown and Company, 1971. (M)

Julia, whose ambition is to become a writer, struggles with her writing and the problem of becoming a more responsible adolescent.

DeAngelo, Marguerite. *Fiddlestrings;* illus. by the author. New York: Doubleday & Company, Inc., 1974. (El-M)

Dailey DeAngeli enjoys playing the violin, but has to prove to his peers that he also has the same interests as other eleven-year-old boys.

Dunlop, Eileen, *Elizabeth;* illus. by Peter Farmer. New York: Holt, Reinehart and Winston, 1975. (M-H)

Kate, once a lively and happy individual, becomes so preoccupied with her historical research that she almost loses touch with the present.

Fitzgerald, John D. *The great brain;* illus. by Mercer Mayer. New York: Dial Press, 1967. (El)

Tom Fitzgerald uses his high ability to play tricks on his friends who then threaten to ostracize him.

Fitzgerald, Louise. *Harriet the spy;* illus. by the author. New York: Harper & Row, 1964. (El-M)

Harriet, a sixth grader, gets into trouble with her classmates when they discover that she has been spying on them to get materials for a book she plans to write when she grows up.

Greene, Bette. *Philip Hall likes me. I reckon maybe;* illus. by Charles Lilly. New York: Dial Press, 1974. (El)

Beth Lambert could easily be the best student in her class if she did not let Philip Hall, her first love, have this distinction.

Greene, Constance. *A girl called Al;* illus. by Byron Barton. New York: Viking, 1969. (El)

Al (short for Alexandria) is an over-weight pre-teen. She asserts to her friends that she is a non-conformist in order to hide her feelings of insecurity.

Greene, Constance. *I know you, Al;* illus. by Byron Barton. New York: Viking, 1975. (El)

In a sequel to, *A girl called Al,* Alexandra develops into an attractive and much more self-assured adolescent.

Moser, Don. *A heart to the hawks.* New York: Atheneum, 1975. (M-H)

Mike is so interested in natural science that it interferes with his social life; a situation his parents and girlfriend cannot understand.

Peyton, K. M. *The Beethoven medal.* New York: T. Y. Crowell, 1971. (M-H)

Pat Pennington, a brilliant young musician who aspires to become a concert pianist, also has a stubborn streak of anti-social behavior.

Sefton, Catherine. *In a blue velvet dress;* illus. by Eros Keith. New York: Harper & Row, 1964. (El-M)

Jane has such a passion for reading that she prefers it to anything else.

Smith, Doris B. *Dreams & drummers.* New York: T. Y. Crowell, 1978. (M)

Stephanie Stone, a teenager has problems communicating with her classmates and deciding on a career.

Educational/Vocational Problems

Arthur, Ruth M. *Requiem for a princess;* illus. by Margaret Gill. New York: Antheneum, 1967. (El-M)

Bonhan, Frank. *The nitty gritty;* illus. by Alvin Smith. New York: Dutton, 1968. (M)

Charlie Matthews, who is very good in school, wants to go to college, but his father fails to see the necessity for a black boy to go to college.

Fitzhugh. Louise. *Nobody's family is going to change.* New York: Farrar, Straus & Giroux, 1974. (El-M)

Hentoff, Nat. *Jazz country.* New York: Harper & Row, Publishers, 1965. (M-H)

Seventeen-year-old Tom Curtis must decide between a career as a jazz musician or the college education which his parents desire for him.

LeGuin, Ursula K. *Very far away from anywhere else.* New York: Atheneum, 1976. (M-H)

Murphy, Shirley R. *Poor Jenny, bright as a penny.* New York: Viking, 1974. (El-M)

Smith, Doris B. *Dreams & drummers.* New York: T. Y. Crowell, 1978. (M)

Wojciechowska, Maia. *Shadow of a bull;* illus. by Alvin Smith. New York: Atheneum, 1964. (M-H)

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Witty, P. A. Improving the reading of gifted children and youth. *The packet: Heath's service bulletin for elementary teachers.* February, 1951. 6, 3.

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"Gifted Child Quarterly," Vol.25, No.2, p. 83-85

MATHEMATICS

Mathematics is vital in the education of gifted and talented students in this era of technology and automation. It is essential that the gifted and talented understand that math is a way of thinking, of inductive and deductive reasoning and that it is an area of dynamic change and discovery. Curricula for the gifted and talented in math should:

1. Condense the math of regular elementary programs.
2. Stress the structure of math.
3. Present more abstract and complex concepts than core curriculum.
4. Stress understanding of major math concepts and the relationships between concepts.
5. Use a discovery or an inductive approach.
6. Develop independent creative thinking.
7. Involve concept exploration through challenging apparatus and concrete materials.
8. Be interrelated to the sciences.

Some possible approaches include:

1. Elaboration on the number systems as in codes, the sieve of Erasthones, etc.
2. Probability, statistics, and set theory.
3. Acceleration into algebra, trigonometry, and calculus.

Since the majority of elementary teachers are not usually experts in this area, math clubs or classes at higher levels in high school might be provided. Teachers should:

1. Allow for a wide range of abilities and interest.
2. Present math as a way of thinking: habits of inquiry, orderly thinking and accuracy (inductive, deductive reasoning).
3. Guard against unnecessary repetition and drill or imbalanceed competition among students.
4. Provide math skills necessary for the student's independent work and research regardless of the predetermined curriculum for the class.

5. Point out the uses of math in many fields from archeology through oceanography, accounting and the sciences.
6. Promote use of computers, slide rules, calculators, graphs, measuring and recording devices.

For Grades K - 3 Students:

1. Work with Cuisinaire Rods; make up problems to work on the rods; tutor another student with the rods; work problems from a tape recorder. Think up different ways to use the rods.
2. Simple equations: Practice writing equations. Make up your own equations; explain them to the teacher and other interested students.
3. Add greater emphasis to geometry, graphing, pattern relations, and problem solving. Study the quantitative aspects of science and social studies.

For Grades 4 - 6 Students:

1. Plan and make a math interest center with feedback from participation. Ideas may range from a store to a machine shop.
2. Find or invent math games. Explain rules to others. Revise the rules to make the game more difficult.
3. Invent a new machine. Demonstrate with problems on various levels of complexity.
4. Design the perfect playground. How much land is needed? What equipment is needed? How would the playground be financed? What special needs of children would be provided by this playground?
5. Make a calendar for this month using a base other than ten.
6. Develop a counting system without a zero.
7. Think of something inside or outside the building that you cannot count easily. Figure out a way to count it.
8. You are responsible for teaching a small math group for one week. Your only materials are graph paper with one inch squares and a bag of dry beans. How many different things can you teach your class?

For Grades 7 - 12 Students:

1. Demonstrate your ability to combine principles, concepts and generalizations by developing an original finite mathematical system, by listing a set of elements, and by defining an operation on the set for which the set is closed and one for which the set is not closed.
2. Using a game such as Wff'n'Proof as a model, invent a game that requires the formulation of new concepts and accurate proofs. Use "Equations: The Game of Creative Mathematics" as a teaching tool for a class of students who are having trouble with math.
3. Discuss the impact of the computer on higher level mathematics.
4. Extend Einstein's Theory of Relativity to speeds greater than the speed of light.
5. Project yourself into the role of a person who is frightened by math. Plan material and presentations to overcome this fright through your methods and materials.
6. Study polynomial, rational, and circular functions.
7. Seniors should learn probability with statistical influence, calculus, and elementary numerical analysis.

Appropriate Topics for Young Gifted Mathematicians

1. Lattices - help youngsters see the intricacies of the number system, can be started with first graders
2. The Sieve of Eratosthenes
3. Probability (the rudiments, anyway) remembering the research by Piaget that shows children can understand concepts at an operational level without being able to state them formally.
4. Set theory
5. Graphing
6. Other number bases - binary, five, eight
7. Number sequences - 1, 3, 5, . . .
   1, 2, 3, 5, 8, . . .
   0, 3, 8, 15, . . .
8. Building with blocks of various types, both two- and three-dimensional
9. Geometry
   - a. Two- and three-dimensional shapes
   - b. Symmetry
   - c. Congruent figures
   - d. Geoboards
   - e. Drawings on paper with colored pencils
   - f. String art
   - g. Topology
10. Algebra
11. Estimation

Math Generalizations

Problem Solving

Problem solving is the process of applying previously acquired knowledge to new and unfamiliar situations. Solving word problems includes those in texts and those in real life situations. Problem solving strategies involve posing questions, analyzing situations, translating results, illustrating results, drawing diagrams, and using trial and error. Solving problems involves applying the rules of logic necessary to arrive at valid conclusions.

Applying Mathematics

The use of mathematics is interrelated with all computation activities. Everyday situations can be translated into mathematical expressions, solved with mathematics, and the results can be interpreted in light of the initial situation.

Reasonableness of Results

Due to arithmetic errors or other mistakes, results of mathematical work are sometimes wrong. Results can be inspected and checked for reasonableness in terms of the original problem. With the increase in the use of calculating devices in society, this skill is essential.

Estimation and Approximation

Rapid approximate calculations can be carried out by first rounding off numbers. Simple techniques for estimating quantity, length, distance, weight, etc., exist. Using these techniques, the precision appropriate for the purpose at hand can be decided.

Appropriate Computational Skills

Computational skills include facility with addition, subtraction, multiplication, and division with whole numbers and decimals. Long, complicated computations will usually be done with a calculator. Knowledge of single-digit number facts is essential and mental arithmetic is a valuable skill. Moreover, there are everyday situations which demand recognition of, and simple computation with, common fractions and percentages.

Geometry

Knowledge of geometric concepts allow students to understand effectively the three-dimensional world. These concepts include point, line, plane, parallel, and perpendicular; basic properties of simple geometric figures; and recognition of similarities and differences among objects.

Measurement

Minimum skill in measurement includes the ability to measure distance, weight, time, capacity, and temperature; measurement of angles and calculations of simple areas and volumes; measurement in both metric and customary systems using the appropriate tools.

Tables, Charts, and Graphs

Numerical information can be displayed in more manageable or meaningful terms by setting up simple tables, charts, and graphs from which conclusions can be drawn.

Using Mathematics to Predict

Elementary notions of probability are used to determine the likelihood of future events. Some situations of immediate past experience affect the likelihood of future events and some do not. Mathematics can be used to help make predictions in situations where immediate past experience affects the likelihood of future events.

Computer Literacy

Computer literacy is the understanding of what computers can and cannot do. Uses of computers in society include their use in teaching/learning, financial transactions, and information storage and retrieval. The "mystique" surrounding computers is disturbing and can put persons with no understanding of computers at a disadvantage. The increasing use of computers by government, industry, and business demands an awareness of computer uses and limitations.

"Differentiating the Curriculum for Gifted and Talented Workshop", C. June Maker, Hawaii, 1983

SOCIAL STUDIES

Social studies involves the study of human behavior, past and present. The chief purpose is to make social studies relevant to developing the students' social skills through active participation and purposeful study. Social scientific content involves the social studies disciplines of history, geography, sociology, psychology, anthropology, economics, political science, each of which includes the concepts of causality, diversity, interdependence, change, socialization, choices, self-identity, and control.

Social scientific methodology involves studying patterns of human behavior, past and present, for the purpose of predicting, understanding and coping with future patterns; yet, due to individual differences, human behavior cannot be predicted with the same certainty as other sciences.

Suggestions for teaching the "Basics" as students' entry levels for more advanced, abstract and complex studies are as follows:

1. Encourage "thinking aloud" (Brings out assumptions and evidences)
2. Provide an accepting and friendly atmosphere (Student can make errors but knows it)
3. Relate thinking to development of language arts
4. Learn various ways to present data (ways to organize data and make comparisons).
5. Make special research assignments and projects within student's understanding.
6. Take role of resource person and help students to take the leadership role.
7. Emphasize value of history background for facts and use crucial events, discussions of related problems and descriptive reports with organized facts.
8. Encourage collections and other independent enterprises.
9. Help students to learn democratic thesis which implies that logic and reasoning lead to moral and responsible judgments.
10. Provide opportunities to learn responsible participation with groups.

Possible topics for curriculum augmentation are as follows:

Cultural anthropology
Economics
Consumerism
Future studies
Social service activities
Sociology
Design a corporation
Games and simulations
Cartography
Social psychology
Survey research
Courtroom procedures
Market research
Agronomy
Planning a political government
Neighborhood study
Archeology
Political science
Historiography
Independent research
Research in areas of special interest
Pre-law work
Conservation
Research in "roots" (genealogy)
Individual or group research on a significant topic of interest

1. Encourage students to develop and express their deep concern for social issues.
2. Assist students to formulate solutions to social issues including ideas for research and application.
3. Help prepare students to pursue independent study - library skills, interviewing skills and evaluation of media presentations.
4. Clarify for students the importance of self-awareness, group dynamics and social forces.
5. Help students in forecasting their roles in society, their careers and possible contributions.

Examples:

For grades K - 3 students:

1. Given pictures, films and stories about life in your community long ago, compare and contrast those various activities with activities today.
2. Pretend that children in your school are frequently injured while playing in the school yard at recess. Make a list of ways to solve this problem and choose the best one. Explain your choice.

For grades 4 - 9 students:

1. On the basis of human needs, goals and values, evaluate the events and circumstances that led up to the War Between the States (Civil

War).

Analyze the position of the industrial North as well as the position of the Southern plantation owners in regard to economic and philosophical justification for the war.

Develop a policy that could apply to resolving current issues which have some of the same problems that resulted in the Civil War. Would such a policy be applicable in A.D. 2000?

2. Pretend you have discovered some artifacts and that these are all that are left of a civilization. What do you know about this society? Describe a civilization consistent with the facts. Suggest possible solutions to discriminate, explain, and justify.
3. Play unusual background music and open up a discussion developing a map of an imaginative location. Include living conditions, natural surroundings and economic problems.
4. Study problems of the state, nation and world. Evaluate the validity of information and examine discrepancies.
5. Study logic through inductive and deductive reasoning.

For high school students:

1. Analyze the needs and hopes of three countries which were involved in developing the United Nations.

   Combine the concepts, principles and goals into an alternative or different organization. Justify the changes or recommendations that you would make.

   Suggest ways of effecting changes in the United Nations as it is currently chartered and operated.

2. Take a position about UFOs. Would you classify them as natural phenomenon or not? If not, why not?

   Defend your position. Could another planet support life? What evidence would you need? How would you gather such evidence? Write an intergalactic primer - How to communicate with extra-terrestial beings? Stage a mock invasion of your school by beings who arrive via UFOs. In what ways would you feel comfortable/uncomfortable? What aspect of such a visit would be the same or different from a visit of students from China, Africa, or Lapland?

Taking all that you know, defend the position that UFOs threaten the future of the earth. Simulate a defense. Fashion an approach for intergalactic cooperation.

FUTURES TOPICS

1. Biotechnology: The Six Million Dollar Person Is Here
2. The Have and the Have Not Nations
3. Alternative Sources Of Energy
4. Trends in Society Which Will Shape The Future
5. Technological Growth: Good or Bad?
6. Where Is The Family Unit Today? Where Will It Be Tomorrow?
7. Religion In The 21st Century
8. Forecasting Tomorrow: How Is It Done?
9. Transportation: Yesterday, Today, Tomorrow
10. ESP And The Potential Of The Mind
11. Futurists: Who Are They & What Do They Do?
12. The World of Sports: 1999
13. The Aging Of The Baby Boom: American Society In Change
14. The Intelligence Pill
15. Ocean Farming
16. Wildlife Preservation and General Maintenance of Spaceship Earth
17. Decisions Today Shaping Tomorrow
18. A Doomsday Future
19. A Utopian Future
20. Cybernetics: Where Are The Thinking Machines?
21. Our Values: Today - Tomorrow
22. Schools Of The Future
23. Lifestyles In The Future
24. Farming In The Future
25. The Future And Art
26. Social Roles In The Future
27. The Data Deluge and Knowledge Explosion
28. Genetic Innovation (Artificial Wombs, Embryo Transplants, Cloning)
29. The Nature Of Change
30. Consequences Of The Automobile
31. Patriotism In An Increasingly Interdependent World
32. Satellite Capabilities
33. What Is An "Information Society"?
34. UFO's: What If It's True?
35. Recycling Cities For People
36. Architectural Challenges Of The Future
37. Body-Mind Biofeedback
38. Dying And The Right To Death
39. Disappearing Species Of Animals And Plants: "Once They're Gone..."
40. Water: Will There Be Enough?
41. Planetary And Extra-Planetary Resources
42. Nuclear Waste: What Can We Do?
43. Space Colonization
44. Weather Modification: Good or Bad?
45. Robotics
46. Solid Waste: Trash Or Treasure
47. Is The Population Explosion Ending?
48. Global Equity: What's Your Position On The Developing World?

NAGC Convention, 1984

Social Studies Generalizations

The methodological tools for studying human behavior, as with any science, relies on:

1. Precise definitions of terms; measurement systems; establishment of multiple criteria to guide research; inductive and deductive reasoning; scientific examination; and the establishment of classification systems.
2. People develop individual cultures. However, all cultures share common characteristics.
3. Throughout time people at all levels of world social organizations form a global bank of human culture as both borrowers and depositers.
4. Individuals have unique talents, interests, abilities, and physical characteristics. They differ also in having learned the customs, values, and mores of a particular culture.
5. Depending on nation, culture and experience, people have differing perceptions, beliefs, and attitudes about the world system and its components. Cultural differences can lead to misperceptions, stereotyping and communication barriers, as well as tolerance, acceptance, and enrichment.
6. Conflict, violent and non-violent, has been a major factor throughout human history and in all cultures.
7. Change is fundamental to human personal and cultural development. Science and technology are accelerating the rate of change in the world, and providing an expanded range of choices available to human beings. Whether these choices will be made in the best interests of humanity depends upon the ability of individuals and institutions to foresee their ramifications.
8. The geography of an area directly influences the culture and the society of all people living in the area.
9. All people and nations are interdependent. They must rely on others for essential ingredients, as well as interact with one another in relation to many issues.
10. Governments are created for many purposes. Throughout history the peoples of the world have experimented with a wide variety of governments.

11. There are multiple causes and effects of social events.
12. Control is exercised in a variety of ways in every society and is based on both written and unwritten rules.

"Differentiating the Curriculum for Gifted and Talented Workshop", C. June Maker, Hawaii, 1983

SCIENCE

Science education should help the student to use scientific knowledge, processes, instruments, and language to clarify values, examine issues, solve problems in fulfilling personal, social and career life roles. Students should learn how science can contribute to the improvement of quality of life now and the future; and how they can take an active and important part in that contribution.

Emphasis is on inquiry, experimentation, evaluation of evidence and construction of models and theories. Students should undertake work based on conceptual rather than topical orientation.

Approaches should involve:

1. Exploration and elaboration: Free, unguided exploratory experimentation with materials and equipment.
2. Synthesis: Introduce principles and move from concrete perceptions to abstractions; random exploration is not enough.

More integration of the sciences is needed especially around social problems so that students can see the linkage between the various sciences and life concerns. They should see how the sciences and humanities interrelate.

Freehill[11] in his studies suggest the following for gifted and talented science instruction:

1. General science course should precede the specialized courses of the secondary school; wise to avoid over specialization.
2. Science courses K-12 should be essentially non-vocational.
3. Gifted and talented students should be offered a three year sequence of courses.
4. High standards should be required; gifted and talented should be given differentiated assignments with laboratory experiments.

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[11] Gifted Children, Their Psychology and Education, M. Freehill, 1982

5. Teachers should be competent in science and take the role of adviser, helper and intellectual guide.
6. Students should prepare demonstrations, experiments, make careful observations, form hypothesis, apply science to local problems, improvise scientific equipment and demonstrate scientific creativity.

Nine unifying concepts for study include:

1. The change of living things through time.
2. Diversity of type and unity of pattern of living things.
3. The genetic continuity of life.
4. The biological roots of behavior.
5. The complementarity of organisms and environment.
6. The complementarity of structure and functions.
7. Regulation and homeostasis - the maintenance of life in the face of change.
8. Science as inquiry.
9. The intellectual history of biological concepts.

Successful science programs should have the following:

1. Well-organized non-compartmentalized courses.
2. Self-monitoring, self-checking and self-evaluating.
3. Discovery and creativity as outcomes from a total educational experience and not from one course.
4. Teachers as models.
5. Evaluation or measures of accomplishments for -
   a. Increased curiosity and willingness to do independent research.
   b. Increased ability to think.
   c. Increased individual differences
   d. Increased and accurate judgments.

Recommended course modules include:
Biological Science Curriculum Study (BSCS),
Chemical Education Materials Study (CHEMS), and
Physical Science Study Committee (PSSC).

A consortium model which is composed of a team of persons from colleges, community and schools could plan a series of learning and research activities.

Possible topics for curriculum augmentation are as follows:

Psychology
Astronomy
Microbiology
Oceanography
Optical illusions
Meteorology
Investigations of sound

Marine biology
Experimental psychology
Agriculture
Forestry
Demography
Physiology
Genetics
Hygiene

Ecology
Genetics - math
Advanced botany, chemistry, and physics
Hydroponic farming
Wildlife management
Pollution studies
Mineralogy
Zoology

Floriculture
Botany
Horticulture
Electronics
Planetarium design
Pre-medicine
Astrology
Planning an electrical system

A basic approach for divergent thinking includes the following:

1. Present science in relation to human values and social issues.
2. Proceed with instruction that clarifies scientific method - how to formulate a question, methods of investigation, proofs, further theorization, further investigation, proof and evaluation.
3. Make certain that students have adequate background in quantification and interpretive methods. Determine the kind of help they many need and where to find such help.
4. Teach use of equipment as necessary, including calculators, microscopes, slide rules, Bunsen burners, scales.

For Grades K - 3 Students:
Observe a turtle. Weigh and measure the turtle. Describe the body underneath the shell. Explain the reasons for the shell. What "shells" do people have?

Construct a diorama of a turtle in its natural environment. Discuss possible dangers. How many of these dangers can be attributed to man? How could you correct conditions or prevent further problems from developing?

Guess how your classmates would react if you announced that your turtle was a snapping turtle? In what ways could you be reassuring to them?

What experiments can you think of to learn about animal behavior? Could you train your turtle? How would you prove that he "learns"?

For Grades 4 - 9 Students:

Water Purification - Construct a miniature purification unit and present it, along with the research findings, basic terms, and so on.

What are the essential steps needed to purify water? Demonstrate, measure the residue, describe possible effects on human digestion, animal digestion and plant growth.

What relationship does water pollution have to air pollution? In what ways would "cleaning up" the air be similar to methods for "cleaning up" the water? Who should be responsible for this work? What effects will water purification have on the future of mankind?

For Grades 10 - 12 Students:

Create and produce a synthetic gene. Discover its purpose and write a position paper on the possible impact of this gene on further research.

Discover a way to extract an element from the sea; design a production plant; work out its economic feasibility. What scientific and commercial applications may be forthcoming using the element?

Following an earthquake, many buildings were left in questionable condition. How would you determine their safety and prove it scientifically.

The discovery of recombinant DNA has been heralded as finding the "secret of life". Examine the possiblities forthcoming from genetic engineering or cloning. Explain how chromosomes have been analyzed to determine genetic function and relate this to the development and reproduction of genes. What old theories may be modified or discarded? How should scientists develop a code of ethics by which to determine what/who should be "created" and for what purposes?

Science Generalizations - Grades 1 - 8

I. Introduction:

- A. Science is understanding our environment.
- B. Mathematics is the language of science.
- C. Patterns of regularity exist in our physical and living environments.
- D. Discovering, measuring, describing and classifying these patterns is the business of science.
- E. The experimental method provides a vehicle for problem solving in all of life's experiences.

II. Generalizations for grades 1 through 6

- A. When energy changes from one form to another, the total amount of energy remains unchanged.
  - Grade 1. Force is needed to set an object in motion. Force is needed to start, stop, or change the direction of motion of an object.
  - Grade 2. Energy can change from one form to another.
  - Grade 3. The Sun is the Earth's chief source of radiant energy.
  - Grade 4. A loss or gain of energy affects molecular motion.
  - Grade 5. Energy must be applied to produce an unbalanced force, which results in a change of motion.
  - Grade 6. The amount of energy gotten out of a machine does not exceed the energy put into it.
- B. When matter changes from one form to another, the total amount of matter remains unchanged.
  - Grade 1. Matter is characterized by certain properties by which it can be identified and classified.
    Matter commonly exists as solids, liquids, and gases.
  - Grade 2. A change in the state of matter is determined by molecular motion.
  - Grade 3. Matter consists of atoms and molecules.
  - Grade 4. In chemical change, atoms react to produce change in the molecules.
  - Grade 5. In chemical or physical changes, the total amount of

matter remains unchanged.

Grade 6. In nuclear reactions, matter is converted to energy, but the total amount of matter and energy remains unchanged.

C. The Universe is in continuous change.

Grade 1. Things change (implicit within the development of Conceptual Schemes A and B).

Grade 2. There are regular changes in positions of the Earth and Moon.

Grade 3. There are seasonal and annual changes on Earth.

Grade 4. The Earth's matter is in continuous change.

Grade 5. Bodies in space are in continuous change.

Grade 6. Nuclear reactions produce the radiant energy of stars, and consequent change.

D. Living things are interdependent with one another and with their environment.

Grade 1. Environments differ (implicit within the development of Conceptual Scheme F).

Living things are affected by their environment.

Grade 2. Living things depend on their environment for the conditions of life.

Grade 3. The Earth's different environments have their own characteristic life.

Grade 4. Living things capture matter and energy from the environment and return them to the environment.

Grade 5. Living things are adapted by structure and function to their environment.

Grade 6. Living things depend basically on the capture of radiant energy by green plants.

E. A living thing is the product of its heredity and environment.

Grade 1. Living things may differ in structure, but they have common needs and similar life activities. Living things reproduce their own kind.

Grade 2. Related living things reproduce in similar ways.

Grade 3. Living things are related through possession of common structure.

Grade 4. A living thing reproduces itself and develops in a given environment.

Grade 5. The cell is the unit of structure and function in living things.

Grade 6. People are the products of their heredity and environment.

F. Living things are in continuous change.

Grade 1. Living things grow.
There are different forms of living things.

Grade 2. Forms of living things have become extinct.

Grade 3. Living things grow and develop in different environments.

Grade 4. Living things are adapted to particular environments.

Grade 5. Over the ages, living things have changed in their adaptation to the changing environment.

Grade 6. Changes in the genetic code result in changes in living things.

III. Junior High Generalizations:

A. Earth Science

1. The interaction of water, atmosphere and land on Earth continually cause change.
2. The Geological history of the Earth is constantly unfolding.
3. Earth contains a finite amount and kind of natural resources.
4. Earth occupies a specific niche in our solar system and in our universe.

B. Physical Science

1. Mathematics is used to organize, describe, categorize, and communicate information about matter.
2. Matter exists in three states - solid, liquid, and gas and the transfer of energy is necessary to change matter from one state to another.
3. The kinetic particle theory is a useful model explaining the change of state of matter and the motion of particles.
4. The atomic-electron model is useful in explaining how atoms

interact in a chemical reaction.

5. When atoms are grouped by atomic numbers, there is a periodic repetition of their chemical and physical properties.
6. Radioactivity caused by the breakdown of atomic nuclei can be measured, can measure age of matter, and can cause the change the change of one element to another.
7. All motion is governed by Newton's Three Laws:
    a. A body in motion will continue to move at the same speed and in the same direction unless acted upon by an outside force.
    b. Acceleration of a moving body is directly proportional to the force applied and inversely proportional to the mass of the body.
    c. For every action there is an equal and appropriate reaction.
8. Electricity is the flow of electrons from one material to another and has measureable properties of voltage, amperage, and power.
9. Energy may be interchangabily transformed between kinetic, heat, chemical, electrical and radiant forms.
10. Heat energy can be transferred by radiation, conduction and convection.
11. Wave motion is the transfer of energy from place to place without the transfer of matter.
12. Sound waves require a medium through which to travel.
13. Electromagnetic waves do not require a medium in which to travel.
14. Earth's ultimate source of energy is the sun.
15. Earth is a closed system dependent on interrelationships between the living organisms and the physical environment.
16. Future energy and material shortages will have an impact on everyone's life.
17. Transportation is a complex set of interacting electrical, chemical and mechanical systems.

C. Life Science

1. Groups of cells are organized by function into tissues.
2. Groups of tissues are organized by function into organs.
3. Groups of organs working together form a system in order to perform one or more activities essential to life.
4. Misuse of chemicals and drugs can have serious effects on the living organism.
5. All living organisms are classified according to observable characteristics.
6. All living organisms must obtain certain needs in order to survive.
7. Variation exists within each group of living organisms.
8. All living organisms interact with their environment.
9. All living organisms must be able to replicate their genetic code and reproduce themselves.
10. Interactions between living organisms and their environment have determined change.

FINE ARTS

The Fine Arts program enhances student perception, intensifies personal satisfaction and gives depth and understanding to the humanistic aspects of the arts. The arts must be integrated with other subject areas, to develop within students that which is inherent, the capacity to create. The arts helps students to see life, living and learning as a whole process and cultivates the sensory, emotional, and intuitive faculties. Suggested broad themes include:

1. Understanding the historical and cultural aspects of man and his universe
2. Man and his environment
3. How man interacts with man
4. Man reflects to find meaning in life
5. Creating with spontaneity and intuition

Fine Arts helps the individual to value individual differences and personal preferences; spontaneity and the intuitive; image formation and symbolic meaning; and creativity. The arts help students to express and share feelings and project their hopes and ideals. They furnish the basis for the tastes and judgment that affect our quality of life and humaneness.

Teachers and parents need to encourage curiosity and to provide opportunities for relaxing and dreaming. Expressive opportunities need to be provided in creative writing, speaking, dramatics, music and art experiences.

Courses in the humanities should help to integrate the arts with other disciplines and provide opportunities for publication or performances.

Some possible topics for curriculum augmentation are as follows:

Dramatic production
Set design
Photography
Costume design
Painting in various media
Bookbinding
Toy design
Calligraphy
Fashion drawing
City planning
Silk screen

Furniture design
Advertising
Cardboard carpentry
Animated films
Jewelry making
Opera or musical comedy production
Landscape architecture

Paper making
Sculpture
Weaving and Plaiting
Vocal music
Art history
Instrument making
Personal adornment

Tincraft
Leathercraft
Mosaics
Glass blowing
Musical composition
Orchestration
Bargello design

Visual and Performing Arts

1. Recognize the pleasure that the talented performer derives from the expression of feeling, thoughts and ideas in an art form.
2. Provide an atmosphere in which a student feels free to experiment, and take risks.
3. Offer guidance in concept development - planning, goal setting, execution, judgment or evaluation
4. Enrich cognitive offerings with art expression; math with rhythm, poetry with movement, concepts (large/small) with dance, expressive vocabulary with fine arts.
5. Help them to understand the humanistic values in the arts, including social perspectives in art history.
6. Give specific instruction in techniques and skills as required or requested.
7. Provide means for recording the creative works such as musical pieces they have composed, photographic art works on display, or give a dance performance.

For teachers of grades K - 3 students:

1. Introduce many modes of expression in art and various musical experiences. Increase students' awareness of sounds and form, design, etc., in many facets of life.
2. Begin music/art appreciation.
3. Encourage students to be realistic in the standards they set for themselves; develop a hard-work but patient approach to playing an instrument, creating a dance or a work of art.

4. Promote students' creativity. Share the thought processes through which the artist, musician or dancer has progressed. Be aware that the student may report a flash visualization or a step-by-step plan.
5. Recommend the use of the Kodahy, Suzuki, Orff-Schulwerk and conceptual approaches.

For teachers of grades 4 - 9 students:

1. Help students acknowledge their talents.
2. Help students be aware that their talents may lead to a career or service to community, or a hobby that brings self-satisfaction.
3. Include concepts and principles of design, skills and techniques and multi media. In music, introduce mastery of significantly more difficult music in solo and group experiences.
4. Encourage students to help peers, and have them do group projects.
5. Introduce various modes of expression that help students to see the value of how humans gain insight to elements of music, art drama, dance, etc.
6. Help students to see that creativity is made up of divergent thinking and flexibility and openness. Critical thinking takes place when the student can exercise the ability to analyze the process of creativity.

For teachers of grades 10 - 12 students:

1. Recognize if students need encouragement to continue mastery of an instrument or art form.
2. Assist in career planning or adaptation of talent to satisfactory avocation.
3. Offer appropriate opportunities for displays of art works.
4. Assess students' foundation in technique and knowledge of principles in order fro them to adapt their own style. Encourage students to develop their own personalized style of expression.
5. If students are interested, present an opportunity for conducting and orchestration on an art show or a combination of a music and art presentation.
6. Interrelate broad aspects of color, form, movement and balance symmetry, tension and relaxation.

ASIAN, EUROPEAN AND PACIFIC LANGUAGES

Elementary (K-6)

Foreign languages in the elementary school and Hawaiian classes may begin in the kindergarten with the aural-oral approach. Studies have shown that young people are especially receptive to language learning at this early age. Use books, games, songs, skits and cultural realia.

Community people can be an enrichment to the instruction. Students will be able to hear native accents and be able to hear personal stories first hand which relate to language and culture learning. In addition to volunteer community people, there are some drillmaster funds available. This can be effectively worked through the intermediate and high schools.

Many gifted students will already have a language other than English which is spoken at home or they have learned through relatives or by staying in another country. Every effort should be made to foster this language and not let it become unpracticed. Great caution should be taken to avoid any "shame" factor which would make the students not want to speak a language other than the predominant English.

Intermediate (7-8)

It is a special time to be gregarious and learn other cultures through contact with students from different countries. It is an opportunity for them to participate in clubs, camps, and exchange programs with activities in speaking and adventures into other cultures.

Secondary (9-12)

The gifted and talented in languages are often unnoticed at the secondary level because of the many other activities in which they are involved. Forensic contests in the language and national tests are challenges which can be enjoyed. Credit by examination is also a good vehicle for students who want to progress faster or who want to challenge themselves through self tutoring.

Study abroad opportunities and travel with their school teacher or other groups are experiences which will be special for gifted and talented students. There are many opportunities in Hawaii to accept visiting students into homes for homestays. This offers the students to have first-hand knowledge of cultural differences and also offers invaluable opportunities to practice the language they are studying.

While it is important that gifted and talented children may gain acquaintance with and facility in one or more foreign languages, it should be remembered that merely because a student may be gifted does not guarantee that they are also linguistically gifted. Those who are linguistically gifted should be alerted to the increasing importance of such languages as Chinese, Russian and others both in business and world relations.

HEALTH AND PHYSICAL EDUCATION

Twenty-five years after his initial study of the gifted, Terman found that those in the research study reported activities which did not reflect withdrawn, remote or anti-social behavior. Sports were in first place for both sexes.

Enrichment topics for gifted and talented could include creative movement, dance, mime, health career exploration, and consumer protection.

CAREER EDUCATION

Since most gifted and talented students have many potentialities, wide and varied interests, and can succeed in many areas of endeavor, career choice is difficult. On the other hand, many gifted and talented students underachieve at school because they are bored and frustrated with programs unsuited to their needs and interests. If grades then are used as the sole criterion for the identification of the gifted and talented, these young people will never have a chance to develop their potential in school. For the intellectually gifted, most career choices such as that of medicine, law, engineering or in the sciences will require long professional training. Therefore, acceleration shortens preparation time. Such students could well benefit by advanced placement and early college entrance. Students with talents in the arts may not choose the college route but may instead choose a professional arts school.

It is important in all programs for the gifted and talented to provide career awareness as well as to assist the students to learn about themselves and to realistically appraise their potentialities so that they can make wise career choices. Moreover, the program should assist students to develop independence in learning so that they can explore the world of work on their own. Work study programs or exploratory vacation experiences can provide direct contact with possible careers. Contact with mentors in various fields of endeavor as well as apprenticeships can assist in career orientation. Refer to "Avenues for the Gifted and Talented Student," an ETV career education series of the Office of Instructional Services for a videotape and suggested lesson with activities.

PRACTICAL ARTS AND VOCATIONAL TECHNICAL EDUCATION

Offerings which provide valuable knowledge and skills for our highly technical, complex and changing world are in the areas of:

Practical Arts Education (to help in the management of human and material resources):

agriculture arts
business
home economics
industrial arts

Vocational Technical Education (to help in the preparation of occupational competencies):

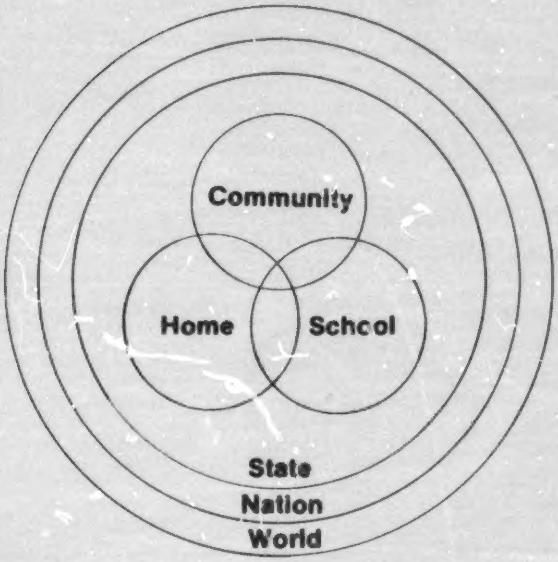
agriculture
office and distributive
health occupations
home economics occupations
industrial-technical

Students who excel in these areas should pursue these interests and take the leadership in developing the expertise needed for using the new and unknown technological creations of the future.

OTHER PROVISIONS AND COMMUNITY RESOURCES

The limitation of the talents of teachers often make special clubs or monitored independent study under other expertise necessary. Qualified mentors or professionals should be implemented. Use of a survey of community resources should be made for this purpose.

Overview of Gifted and Talented Program


Community
Home
School
State
Nation
World

A Synergistic Approach

Pearl Ching, '83

1. Goals and Objectives
2. G/T Identification
3. Administrative Arrangements
4. Needs Assessment
5. Differentiated Curriculum
6. Instruction in the Disciplines
7. **Unit and Lesson Planning**
8. Implementation of Plans
9. Student Products and Performances
10. Evaluation

VII. UNIT AND LESSON PLANNING

Planning units and lessons are essential to effective instruction. There are many formats and styles for planning, largely dependent on the teacher's own style and preference.

To illustrate the application of the guiding principles of differentiated curriculum and ways to integrate the department's Foundation Program Objectives and subject area guides are the following units and lessons in various areas and levels. The plans were available for sharing by teachers who took the time to write them. They are not intended to be "models" or to represent "ideal" units or lessons to replicate. It is expected that users will write their own lessons and units and differentiate the curriculum and instruction for their own particular students. Hopefully, these examples may clarify some concepts and procedures and generate more ideas and strategies.

Although many of the same program elements are included in each unit or lesson, their descriptions do not follow a consistent outline. To do so would have required that each be fitted into a structure that was much too rigid.

Some of the teaching models as described in Section V of this Resource Book are applied in the teachers' plans for their own specific class settings.

An attempt was made to have plans for primary, upper elementary, intermediate and high school levels, different subject areas; different types of programs, different schools and districts; and various teaching-learning models such as Bloom, Taba, Kolberg, etc.

It is hoped that more teachers will contribute their work to this Resource Guide for the improvement of gifted and talented programs.

MODEL: **BLOOM'S AND GUILFORD'S**

TITLE: Energy and Our Environment

FOCUS:
- The content should focus on and be organized to include more elaborate, complex, and in-depth study of major ideas, problems, and themes that integrate knowledge with and across systems of thought.
- There should be exploration of constantly changing knowledge and information and development of the attitude that this knowledge is worth pursuing.
- Evaluations should be in accordance with prior stated principles, stressing higher-level thinking skills, creativity and excellence in performance and products.

GRADE: 5-6

LENGTH OF TIME: 3 months

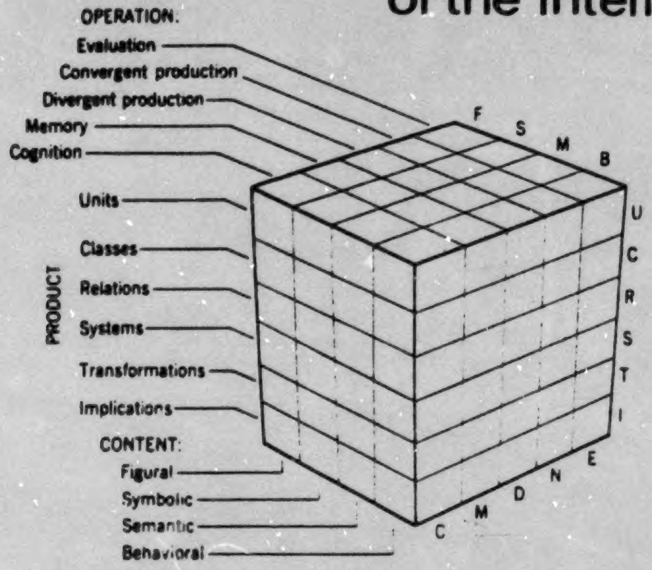
NAME OF TEACHER: Lucille Miller
SCHOOL: Thomas Jefferson Elementary

Bloom's Taxonomy of Educational Objectives

KNOWLEDGE	SKILLS
1. Knowledge of Specifics . knowledge of terminology . knowledge of specific facts 2. Knowledge of Ways and Means of Dealing with Specifics . knowledge of conventions . knowledge of trends and sequences . knowledge of classifications and categories . knowledge of criteria . knowledge of methodology 3. Knowledge of Universals and Abstractions in a Field . knowledge of principles and generalizations . knowledge of theories and structures	define recognize recall identify label understand examine show collect
COMPREHENSION 1. Translation 2. Interpretation 3. Extrapolation	translate interpret predict explain describe summarize demonstrate
APPLICATION 1. Use Abstractions in Specific and Concrete Siutations	apply solve experiment show
ANALYSIS 1. Analysis of Elements 2. Analysis of Relationships 3. Analysis of Organizational Principles	connect relate differentiate classify arrange group interpret organize categorize take-apart compare
SYNTHESIS 1. Production of a Unique Communication 2. Production of a Plan for Operation 3. Derivation of a Set of Abstract Relations	design redesign combine add to compose hypothesize construct translate imagine
EVALUATION 1. Judgments in Terms of Internal Evidence 2. Judgments in Terms of External Evidence	interpret judge criticize decide

From *TAXONOMY OF EDUCATIONAL OBJECTIVES: HANDBOOK I: COGNITIVE DOMAIN* by Benjamin S. Bloom et al. Copyright c 1956 by Longman's Inc. Reprinted by permission of Longman, Inc., New York.

Guilford's Structure of the Intellect


OPERATION:
Evaluation
Convergent production
Divergent production
Memory
Cognition
F
S
M
B
PRODUCT
Units
Classes
Relations
Systems
Transformations
Implications
U
C
R
S
T
I
CONTENT:
Figural
Symbolic
Semantic
Behavioral
E
N
D
M
C

OPERATIONS: Intellectual Processes

Cognition - discovery, rediscovery, recognition of information
Memory - rentention or storage of information
Evaluation - decision-making or rendering judgments
Convergent Production - generation of information from acquired information with emphasis on accepted best outcome
Divergent Production - generation of information from acquired information with emphasis on variety and quality of the outcome

CONTENTS: Classes or Types of Information

Figural - visual or kinesthetic forms
Symbolic - numeral or letter forms
Semantic - words and ideas
Behavioral - manifestation of a response to a stimulus

PRODUCTS: Organization that Information Takes

Units - single word or idea
Classes - groups of information
Relations - Connection between information
Systems - structure of information
Transformations - redefining or modifying existing information
Implications - foreseeing consequences

INTERACTIONS - combining Operations, Contents, and Products

Example: NSR - convergent production, production of symbolic relations

DFT - divergent production of figural transformations

REFERENCE: Guilford, J.P. *The Nature of Human Intelligence.* (McGraw Hill Series in Psychology), McGraw Hill, New York: 1967

AN EXAMPLE OF COMBINING BLOOM'S TAXONOMY OF

PROCESS

CONTENT

UNIT:	Knowledge	Comprehension	Application
Energy and our Environment	list, find, tell, write, label, quote select...	reword, expand, retell, alter define, explain, outline, infer, predict	relate, solve, use, devote, make use of put in action
The World's Energy	Find out about early man's use of energy: Sun, wind, water, muscle power.	Explain why early man's use of energy did not cause pollution or environmental problems	Draw a map of the world to show where the major coal and oil reserves are and how they reach us
Why is there waste and pollution?	Find out about engines: steam, diesel, jet, gas, etc. Where do we get these fuels?	Define fossil fuels. Explain how they are related to solar energy. Use your knowledge to explain how engines cause pollution.	Relate how our uses of energy to make life easier have also caused pollution of the environment.
Man's Use of Energy	Make a list of disposable products we use daily.	Predict what will happen if Man continues to exploit resources. Explain how carbon monoxide and carbon dioxide affect plant and animal life. Compare and contrast these; are they beneficial or harmful?	For one week keep a record of what you throw away and how you might have recycled that object. Study Hawaii's part in geothermal energy use and what is happening now.
Future Use of Energy	Find out about nuclear energy and solar cells.	Which provides greatest amount of energy at least environmental cost?	What plans are there for the future to increase our energy supply?

PROCESS

Analysis	Synthesis	Evaluation	OUTCOMES
look into, examine, check, study, reason, break down, divide.	create, form, build, make, reorder, structure, compose.	judge, rank, decide, classify, criticize, reject.	models, map, murals, letters, art work, research.
Study the many useful products for which petroleum is used. Examine the steps being taken to protect our environment by government and private concerns. Deduce how waste heat and toxic compounds act as pollutants. Compare rate of power usage when appliances are in use and when shut off. Interview someone who owns a car to find out how much it costs per yr. Interview soemone who is in a carpool. What do they save in energy & money?	Make a cause & effect chart to show what has happened to our environment. Integrate results of your research to: Write a letter of persuasion to the newspaper to urge conservation of energy; Write to the electric co. to find out what plans they have for pollution control. Write to pollution control people to find out what is being done locally. Write to inform: Relationship between rising population and rising fuel use. USA is world's largest user of fuel energy. Why? Invent a pollution-free/energy-saving "machine" for use in future city.	Appraise the present situation and decide how the world must proceed. Decide how to educate people to save the resources of the world. Appraise the local situation and either criticize or praise the litter/pollution control dept. for what is being done. Classify Man's energy uses and decide how to build a pollution-free city: Determine best/cheapest means of energy.	Using independent study/research skills write a report on one aspect of energy and its use, past and present. (& future?) Make a map of world showing energy sources. Make a chart showing cause & effect of energy & man's use of it. Make a timeline showing man's use of energy thru ages. Make lists of fossil fuels; Disposable products. Write letters Write reports Design & make a model of a pollution-free city. Design a new Waikiki. Interview. Listen to speakers. Visit Elec. Co.

PRODUCT

cille M. Miller

ENERGY AND OUR ENVIRONMENT

A Language Arts Enrichment Unit Across the Curriculum

Combining Bloom's Taxonomy with Guilford's Model

Goal: To help students understand the use of energy and the relationship between fossil fuels and waste and pollution in our daily lives and how it will affect the future.

By analyzing, synthesizing and evaluating data, the students will be able to make their own conclusions.

Generalization: The ways in which Mankind uses the Earth's resources will determine the present and future condition of our world.

Process: See grid

Products:
Research Reports
Letters
Stories
Charts
Outlines
Skits
Maps
Oral Reports
Timeline

Evaluation:
Observation
Teacher-made checklist
Teacher/Student/Peer Evaluation

MODEL: **CRITICAL THINKING**

TITLE: 9th/10th Grade English/Social Studies, 3rd Qt. Research Project

FOCUS:
- The content should focus on and be organized to include more elaborate, complex, and in-depth study of major ideas, problems, and themes that integrate knowledge with and across systems of thought.
- There should be promotion of self-initiated and self-directed learning and growth.
- Evaluations should be in accordance with prior stated principles, stressing higher level thinking skills, creativity, and excellence in performance and products.

GRADE: 9, 10

LENGTH OF TIME: 6 weeks

NAME OF TEACHERS: Diane Cheung
Kathy Ellwin

SCHOOL: Kailua High

CRITICAL THINKING

Definition: The Correct Assessing of Statements

TWELVE QUESTIONS FOR CRITICAL THINKING

1. Do you understand the meaning of the statement(s)?

2. Is there ambiguity?

3. Are there contradictions?

4. Does a conclusion necessarily follow?

5. How specific is the statement?

6. Does the statement relate to a certain principle?

7. Can you determine the reliability of an observation made?

8. Is an inductive conclusion warranted?

9. Has the problem been identified?

10. How adequate is the definition?

11. How credible is the statement?

12. Is an assumption made?

Based on "A Critical Concept of Critical Thinking" Harvard Review, Vol. 32 No. 1, Winter 1982.

TITLE: 9th/10th Grade English/Social Studies, 3rd Qt. Research Project

LEARNERS:

1. Course: 9th/10th grade students must enroll in both English and Social Studies AT/AP. The classes are scheduled for 5th and 6th periods. Class enrollment varies from 18 to 28 students.

APPROACH:

Four types of strategies are used.

1. Renzulli General Management Plan -- adapted.
   Students state a pre-theses, survey library resources for a pre-bibliography, and survey the community for possible experts on their chosen topics.
2. Critical Analysis Thinking Skills -- adapted.
   Students evaluate the pros and cons of theses and evaluate the credibility of their sources.
3. STEPS -- Student states his thesis with an opinion and three reasons.
4. Ten Steps in Writing the Research Paper -- Students use the outline, notes, bibliography formats in writing their research papers.

CONTENT:

1. An independent student learner will:
   a. use a variety of resources (books, magazines, interviews, films, etc.).
   b. become self-disciplined in fulfillment of his responsibilities and in usage of class and homework time.
   c. utilize critical thinking skills for research and communication purposes.
   d. incorporate three modes of communication skills (written research paper, speaker, listener) in his 3rd Qt. project.
2. An independent student learner will gain specific history content from his research project and general history content from his peers' oral presentations.
3. Students select their own topics within an assigned time period of history: 9th grade -- World History 1600 to W.W. I; 10th grade -- U.S. History 1860 to W.W. I.

4. Students select their own modes of audio/visuals for their oral presentations.
5. An independent student learner will experience improvement in his writing, speaking, and reading skills in the process of his completing his research project.

PROCESS (Lesson Plan):

Week #1 English or Social Studies class	Students do: a. background reading in his history test on a self-selected topic; b. note-taking from the history text; c. a written pre-thesis that is based on his note-taking.
English and Social Studies classes	Students begin research in school library (usually two class periods).
English and Social Studies teachers critique worksheets and counsel students.	Students complete a worksheet assignment on notes and bibliography and turn in the worksheet before they leave the library.
Social Studies class	For an in-class assignment, students survey other areas where information may be found on their selected topics/theses. For example? editorial cartoons--cartoons, newspaper, art, Mexican-American War, Honolulu Newspaper Agency, school newspaper advisor.
English class	For an in-class assignment, students write sentence outlines that are based upon their researched information thus far.
Week #2 English and Social Studies teachers counsel students on resources and their theses.	9th and 10th grade classes go on a field trip to a branch Library of Hawaii and the main State Library of Hawaii or the University of Hawaii Sinclair Library. Student's assignment is to turn in by Friday the additional notecards and bibliography cards.
English and Social Studies teachers read and mark-up essays.	For an in-class assignment, students write essays of one to two pages on their accumulated research data and analyses. Also, students write their pre-plans for their oral/visual presentations.
Week #3 English and Social Studies teachers read and mark-up essays.	Students' rough drafts of outline, essay, endnotes, bibliography) are due. Also, during the week students finalize their oral/visual presentation plans.

Week #4

English and Social Studies classes	Rough drafts are returned and reviewed with the class and the individuals. If students require more research time, one class period at the school's library is scheduled to finalize research content.

Week #5

English and Social Studies classes	Final Research Paper is due with the student's notecards and bibliography cards. Students must have one day of class time to prepare for the presentations (to get necessary art supplies, make arrangements with media teacher for equipment, prepare skits, etc.).

Week #6

English and Social Studies classes	Students' oral/visual presentations for 9th/10th grades begin (a combined two period schedule each day). Oral/visual presentations take approximately two to three weeks.

PRODUCTS:

1. The student will write a research paper.
    a. The essay content will be three to four typewritten pages.
    b. The sentence outline will be one page minimum/maximum.
    c. End note page will have two to three sources from which quotes were selected.
    d. Bibliography page will list only those sources from which quoted material is used in essay.
2. The student will give an oral/visual presentation of his research paper.
    a. The speech will be 5 to 10 minutes.
    b. Question/answer/comment (from audience) time will be 5 to 10 minutes.
    c. Two modes of audio/visuals will be used in the presentations, such as slides, posters, tapes, videotapes, films, skits, etc.
3. The student will participate as a listener/participator by asking at least one question to a speaker each day during the question/answer section of the speech.

EVALUATION:

1. The research paper will be evaluated by the English and Social Studies teachers.

a. In addition to the writing skills, the Social Studies teacher will evaluate:
   1) sources of information;
   2) quality of information;
   3) quantity of information;
   4) validity of thesis.

b. In addition to the general history content, the English teacher will evaluate:
   1) the writing skills of grammar, spelling, sentence structure paragraph structure, and essay structure;
   2) the overall communication effectiveness of content to the essay's rhetoric;
   3) the correctness of form in outline, endnote page, and bibliography page.

2. Social Studies and English teachers will evaluate the oral/visual presentations on the following criteria:
   a. Speech:
      1) The content has quality and quantity.
      2) The delivery is without reading note cards; eye contact is with the entire audience; speaker has adequate voice volume and formal posture stance.
   b. Questions/answers/comments:
      1) Audience responds to speech by asking questions of and/or commenting on speech content.
      2) The speaker defends, explains, discusses his answers to questioners and audience.
   c. Two modes of audio/visuals:
      1) The two modes complement each other.
      2) The two modes stimulate the audience's attention so that they ask questions or make comments.

3. English and Social Studies teachers will evaluate the listener/participator of the audience by:
   a. the number of times he asks questions or makes comments;
   b. the types of questions/comments, such as factual, analytical, comparison, argumental, etc.

SPECIAL NOTATION:

1. The evaluation of student's research project is based upon:
   1/3 written paper (#1 under PRODUCT);
   1/3 oral/visual presentation (#2 under PRODUCT);
   1/3 process (#3 under PRODUCT, plus pre-thesis, outline, essay, rough draft, plans for presentations, note and bibliography card checks).
2. The research project is 1/2 of the quarter grade. Both teachers decide and agree on the research project grade. The remaining 1/2 of the quarter grade is decided by individual teacher on other course content assignments.

RECOMMENDED RESOURCES:

1. Applegate, Terry. Critical Analysis Thinking (CATS). Salt Lake City, Utah: Concept Development Inc., 1978.
2. Markman, Roberta. 10 Steps in Writing the Research Paper, 3rd edition, New York: Barron's Educational Series, 1982.
3. Yount, David and Paul Dekoch. STEPS. Lakeside, California: Interact Co., 1979.

THESES OF 9th/10th GRADE AT/AP STUDENTS

1. If the Lee Harvy Oswald case was reopened, Oswald would be acquitted because the rulings made by the Warren Commission were based on either questionable or improper evidence. (10th Gr.)
2. Independent farming became less profitable in the late 1800's as crops were overproduced, financial times changed, and as agricultural conglomerates grew. (10th Gr.)
3. Limited, safeguarded euthanasia should be allowed if irreversible damage is done to the patient because of the physical and mental effects on both the patients and their families, and because no legal or moral foundation exists for anti-euthanasia. (10th Gr.)
4. The present insanity plea should be abolished because it allows the defendant to escape the consequences of his crime; it deprives the victim of retribution for criminal offenses; and it jeopardizes society by turning the accused back into society. (9th Gr.)
5. Even though Kublai Khan appeared barbarous and illiterate to his Chinese subjects, he was a great emperor. During his thirty-four years of rule between 1260 and 1294 A.D., he promoted the economic prosperity of his empire, encouraged education and religion, welcomed foreign commerce and influence, and conquered many lands. (9th Gr.)
6. The Japanese adapted Chinese customs to their benefit, as shown in religious principles, art styles, written language techniques, and government organization. (9th Gr.)

MODEL: **AN INTEGRATED MODEL**

TITLE: INFLATION: EFFECTS ON PRODUCTION, MARKETING AND ME

FOCUS:
- Integrate multi-disciplines into an area of study
- Content focus on and be organized to include more elaborate, complex and in-depth study of major ideas, problems and themes that integrate knowledge with and across a system of thought
- Development of self-understanding and the understanding of one's relation to persons, societal institutions, nature and culture.

GRADE: 5-6

LENGTH OF TIME: 4 weeks

NAME OF TEACHER: Stanley Tokuda
SCHOOL: Moanalua Elementary

Title: INFLATION: EFFECTS ON PRODUCTION, MARKETING AND ME

Description:

This unit is basically an economic unit that involves students in real-life situations as producers and consumers. In assuming these roles, students go through the development of skills in decision-making, cause-effect relationships, leadership, management, interpersonal relation and communication. Though basically an economic unit, the interdisciplinary approach is clearly evident, for language arts and mathematics skills are important aspects of the unit. More importantly the activities of the unit puts students into actual life-like experience and processes the understanding of the self, how the economy effects the self, and how the self affects others take on a particular significance. This unit is an embodiment of integrated instruction. The content consists of:

1. Knowledge
    - a. Inflation
    - b. Production and manufacturing
    - c. Supply and demand
    - d. Budgeting
    - e. Cause and effect

2. Skills and Processes
    - a. Computing
    - b. Decision-making
    - c. Problem-solving
    - d. Writing
    - e. Speaking (persuading, influencing)
    - f. Valuing

    Note: These skills may call for some specialized teaching activities at certain points.

3. Attitudes - Development of the idea of responsibility to oneself and to others
    - a. Promotion of one's ideas and convictions
    - b. Working for the general good of all in group work

All activities, such as discussions and feedback to students are not listed. Teachers should use their discretion in providing such activities.

Product

- paper cars, records of goods, marketing materials, advertising signs, stickers, brochure

Evaluation

- My Personal Evaluation and Analysis
- Oral Evaluation in Groups

Objectives of Unit:

1) Learn terms associated with business.
2) Learn to work cooperatively, efficiently, and productively in a simulated manufacturing situation (assembly line vs. non-assembly line concept).
3) Learn to evaluate the performance of others (supervisory role).
4) Learn to analyze and plan a cash flow sheet.
5) Learn to sell a product through simulation (dynamic salesmanship).
6) Learn to handle and count $$$ involving thousands of dollars.
7) Opportunity to reinforce some of our Vocabulary Words by way of Company Names and Advertisements.
8) Opportunity for you to evaluate and analyze the reasons for the final Net Profit of your company.
9) Opportunity to realize the effects of personal expenses after "Pay Day."
10) To Have Fun!

GUIDELINES FOR TEACHER

APPROXIMATE TIME SCHEDULE

1st Week: Preparation

2nd Week: Production/Manufacturing

3rd Week: Advertising & Marketing (Selling Product)

4th Week: Evaluation, etc.

NOTE: You may want to follow up or extend this activity with the various types of writings (creative story, persuasive, informative, etc.)

MATERIALS NEEDED

(1) Oak Tag (steel for the body of automobile)

(2) Masking Tape
Scotch Tape or
Other Adhesive

(3) Scissors (represents equipment)

(4) Colored ink pens (represents paint)

- -

(Optional items)

(5) Clear plastic wrapper (represents glass windows)

(6) Tin foil (represents bumper)

(7) Other items that may be appropriate

ITEMS USED FOR PRODUCTION (Use uniform sizes)	Suggested Cost
(1) STEEL (Oak Tag 12" x 18")	$ 25,000
(2) STEEL (Oak Tag 18" x 24")	45,000
(3) TAPE (Scotch) @ 1 foot	4,000
(4) TAPE (Masking) @ 1 foot	2,000
(5) EQUIPMENT (Scissors)	2,000 each
(6) INSURANCE (Optional)	5,000
(7) GLASS (Clear plastic wrap)	500 (4 sq.in.)
(8) BUMPER (Tin foil) (4"x12" strip)	5,000
(9) Others	

It is a good idea to include insurance but make it an option. If a company decides to purchase insurance, any loss (stolen or damaged) to purchased materials would be covered 100%. If there is no insurance and loss occurs, too bad -- POOR MANAGEMENT DECISION!

INSTRUCTION FOR ACTIVITY:

Preparation

1. Students bring pictures of automobiles.
    - a. Share likes/dislikes of auto (design, color, economy, luxury etc.)
    - b. Discuss differences (reasons for) in auto prices.
    - c. Discuss Demand & Supply & other words (business terms)
    - d. CREATE INTEREST & INFORM STUDENTS THAT THEY WILL BE DOING A SIMULATION PROJECT (ACTIVITY) CALLED, "Inflation (How it Affects?) - Production, Marketing & Me."
    - e. Divide class into groups of Companies
    - f. Assign roles to students (student/teacher selection). MINIMUM 3 IN A GROUP (Pres., Accountant, and Engineer).
    - g. Have group select a Name for their Motor Company.
    - h. Give ("free") oak tag (12"x18") for each Company to create a prototype (model/pattern)
    - i. PRODUCTION RULE #1: Minimum Size 4" in length.
      PRODUCTION RULE #2: Absolutely no materials are allowed from outside the classroom.
    - j. Assemble into Respective Companies. Analyze Preparation Cash Sheet or Cost Analysis Worksheet with students. Have each Company plan (cash flow). When completed, have Accountant and President sign, and submit 1 copy to teacher. Teacher checks to see that Total Projected Expenses does not exceed Capital Amount. If it does, you way want to set up a Lending Institution (BANK), or have Company re-analyze their projected Cash Flow.
    - k. Have Companies decide which method of production to use. (Assembly Line-Specialization vs. Non-Assembly Line).
    - l. Instruct students to have a rotation system for each person to be the Supervisor (evaluate) for the day.

NOTE: Once Preparation Cash Flow Sheet or Cost Analysis Worksheet is turned in, Teacher will act as the Supplier, and sell production materials to Companies. Actual Play $$ is Not used at this time for transactions, but only accounting (record keeping) is necessary.

READY FOR PRODUCTION OR MANUFACTURING:

(1) Companies located in various parts of the room.

(2) 1 session equivalent to 1 month of salary.

  (a) Approximately 35 minutes of production time.

  (b) Approximately 15 minutes for "Pay" and Grocery Shopping.

(3) STUDENTS ARE PAID AFTER EACH PRODUCTION SESSION.

(4) ONLY PRESIDENT ALLOWED TO GIVE INCREASE IN SALARY.

Explanation: Teacher/Accountant in charge of "Payroll." Have approx. 5 major types of expenses for employees to incur (e.g., Housing Expense; Transportation Expense; Medical/Dental Expense; Utility Expense; and Miscellaneous Expense).

Before employees receive their Net Pay, they must reach into 5 different envelopes labeled as suggested above, and pick 5 expense cards which will determine the amount of expenses for each employee. (Teacher-made card with various expenses on it.) Subtract this amount from the employee's salary to determine the Net Pay. Student goes to teacher and receives his Net Pay. The employee (student) then goes grocery shopping. RULE: EACH EMPLOYEE MUST SPEND A MINIMUM OF $100 FOR GROCERIES.

At the Market: Set up a variety of items (e.g., sunflower seeds, candy, gum, etc. - in small amounts). Set the price for each item. (For example, a tablespoon amount of sunflower seeds may cost the consumer $150; small candy bar $200, etc. -- explain to students that these items represents bags of groceries.)

Inflation: YOU MAY WANT TO INCREASE THE PRICE OF SOME ITEMS THE FOLLOWING "PAY DAY" SO THAT STUDENTS FEEL THE "IMPACT OF INFLATION."

NOTE: Actual "Play $" is not used for payroll and grocery shopping. The amount he spends is subtracted from his total wages. Only accounting (record keeping) is necessary.

Savings: Whatever amount is left over from an employee's pay check will be credited to his/her Savings Account.

Student to be responsible for his/her account balance. TEACHER/ ACCOUNTANT MAY ALSO KEEP A RECORD OF EACH EMPLOYEE'S SAVINGS ACCOUNT AS A HELPER FOR CLEMENCY NATIONAL BANK.

Advertising: After production is over, use a couple of days for companies to set up display areas (bookcase/tables). Students should make it attractive by making "Ad Posters," covering bookcase/table; making electrical lights, etc.

Use 1 day to talk about the Dynamic Salesperson and have students practice salesmanship.

Selling Days: Use 2 days for "SELLING DAY." Use another class to be the consumers. YOU WILL NEED TO MAKE PLAY $$$ AHEAD OF TIME. Place amounts of play $$$ in envelopes (suggested different amounts from $8,000-$25,000). Give consumers envelopes at random as they come into the room to purchase.

Evaluation: Students to complete My Personal Evaluation and Analysis Sheet. Oral evaluation will also be done in a group with the teacher.

Auction: (optional) You may want to have an auction so that students can spend their savings!

SAMPLE WORKSHEET

COST ANALYSIS

_______________________________Company Date______________

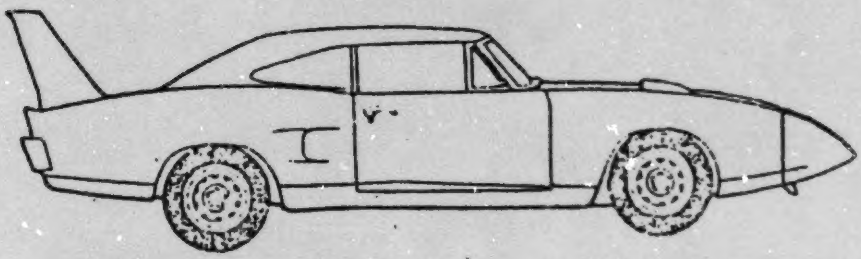
President: ______________________________

Members: ______________________________

COST ANALYSIS

	Type A	Type B
Production Costs		
Materials	$4,000	$4,800
Other Costs (taxes, wages, insurance, advertising, utilities, etc.)	3,000	3,000
Total Cost of Car	7,000	7,800

	Low	High	Low	High
Suggested Selling Prices	$8,000	$12,000	$9,000	$12,000
Total Cost of Car	7,000	7,000	7,800	7,800
Commission for Salesman	800	1,200	780	780
Net Profit	200	3,800	420	3,420



PREPARATION CASH FLOW SHEET

NAME OF COMPANY______________________________

ACCOUNTANT X__________________________________

****

CAPITAL AMOUNT..$100,000

EXPENSES:

Steel...................________________

Tape....................________________

Paint...................________________

Equipment...............________________

Glass...................________________

Insurance...............________________

Sub-total Expense ________________

BALANCE ________________

Employee: (SALARY)

(__________)_____________

(__________)_____________

(__________)_____________

BALANCE

Total Exp. (Salary) 1st month:____________ ____________

2nd month:____________ ____________

3rd month:____________ ____________

4th month:____________ ____________

5th month:____________ ____________

PRICE OF AUTO

(high)_____________

(low)_____________

X______________________________

PRESIDENT

Total projected expenses_____________

STUDENT'S COPY

MY PERSONAL EVALUATION & ANALYSIS

1. WHAT DO YOU FEEL WERE THE REASONS (Why?) YOUR COMPANY PLACED NUMBER ____________________? The following are some reasons that may help you (method of production, expenses, worker efficiency/inefficiency, sales price, demand, supply, management decisions, salesmanship, etc.).
2. What was your personal Savings Account balance? $______________
   Are you satisfied with the amount?__________
   Could you have saved more $?____________
   Explain the reason/reasons for Your Savings Account Balance.
3. What was your personal Loan Balance? Explain the reason/reasons for Your Loan Balance.
4. What are your feelings about Personal Expenses? Do you have a better understanding of what parents must face involving Personal Expenses? Explain completely.
5. Did you feel that your salary (pay check) was ample (enough)? Do you feel that you deserved a higher "Pay," or Not? Why?
6. What do you feel was the most significant thing that you learned from this project? Explain.
7. What did you enjoy most about this activity? Explain.
8. What did you dislike about this project? Explain.
9. How does "Inflation" affect you? Explain.
10. Write a creative story about an automobile and inflation.

Name __________________________________

Grade_____________

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MODEL: **PARNES' CREATIVE PROBLEM SOLVING**

TITLE: Living on the Growing Edge (Adventures in Interpersonal Relationships)

FOCUS:
- Integrate multiple disciplines into the area of study
- Develop independent or self-directed skills
- Develop complex, productive, abstract and/or higher level thinking skills
- Develop research skills and methods
- Encourage the development of products that use new techniques, materials and forms
- Encourage the development of self-understanding, i.e. recognizing and using one's abilities, becoming self-directed, appreciating likenesses and differences between oneself and others

GRADE: 4-6

LENGTH OF TIME: 3-4 months

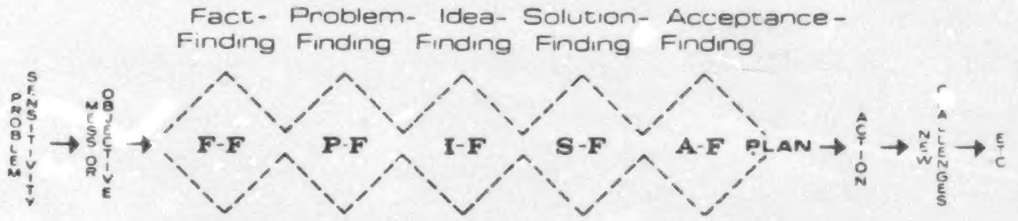
NAME OF TEACHER: Nathalie Hee
SCHOOL: Pearl Harbor Kai Elementary

Creative Problem Solving

The creative process applied to problem solving:

1. **Fact-finding: gathering data in preparation for defining the problem**
   - **Identify the problem by asking questions: Who? What? Where? When? Why?**
2. **Problem-finding: analyzing problematic areas in order to pick out and point up the problem to be attacked.**
   - **Question- "In what ways might I . . . . . . ?"**
   - **Gather data**
3. **Idea-finding: idea production - thinking up, processing, and developing numerous possible leads to solutions**
   - **Put to other uses**
   - **Modify**
   - **Magnify**
   - **Rearrange**
   - **Combine**
   - **Adapt**
   - **Minimize**
   - **Substitute**
   - **Reverse**
4. Solution finding: evaluating potential solutions against defined criteria
   - Establish criteria
   - Evaluate
   - Verify
   - Test
5. Acceptance-finding: adoption - developing a plan of action and implementing the chosen solution.
   - Implement
   - Prepare for acceptance

The following diagram suggests the way in which this process alternates within each step between "imaginative" (divergent) thinking and "judicial" (convergent) thinking.


Fact-Finding
Problem-Finding
Idea-Finding
Solution-Finding
Acceptance-Finding
PROBLEM SENSITIVITY
MESS OR OBJECTIVE
F-F
P-F
I-F
S-F
A-F
PLAN
ACTION
NEW CHALLENGES
ETC

REFERENCES: Parnes, Sidney J., B. Noller, and A. Biondi. *Guide to Creative Action*. Charles Scribner & Sons, New York: 1977.

Osborn, Alex F. *Applied Imagination*. Charles Scribner & Sons, New York: 1963

Used by permission of Charles Scribner & Sons.

Title: LIVING ON THE GROWING EDGE (ADVENTURES IN INTERPERSONAL RELATIONSHIPS)

Learners: Gifted and Talented - 15 children maximum

Approach (Model/Strategy):

Creative Problem Solving - Parnes, Sidney J., Noller, B. and Biondi, A.
Osborn, Alex F.

Renzulli's Enrichment Triad

Type I	Type II	Type III
General Exploratory Activities	Group Training Activities	Individual and small group investigations of real problems

Generalization: People learn to love and esteem themselves through knowledge, skills and attitudes.

A. Knowledge
   - Becomes a whole person by developing these areas: emotional, social, physical and intellectual.

B. Skills
   - Gains a perspective of how others see him/her
   - Talent scouts his/her strengths and abilities
   - Plans how to replace destructive behavior and attitudes with constructive ones

C. Attitudes
   - Perceives the self as worthy to be loved
   - Learns to forgive
   - Learns to rejoice in his/her existence

Generalization: People learn to love and esteem others through knowledge, skills, and attitudes.

A. Knowledge
   - Become a whole person when he recognizes and respects that others have the same qualities as himself.

B. Skills
   - Learns how to show appreciation and values others.
   - Resolves conflict agreeably
   - Gains the skills of friendship making

C. Attitude

- Learns to separate destructive behavior from the worthiness of a person
- Learns to love another unconditionally
- Learns the attitudes of a genuine friend

Activities:

Fact-Finding & Problem Finding

1. How can we improve ourselves and our relationships to others? (Who, what, where, when, why)
2. Listen to the social scientists (counselor, psychologists, sociologists, etc.) and get a broad view of the skills needed - measuring, hypothesizing, predicting, writing, interviewing.
3. Brainstorm possible topics to do research.
4. Choose a topic to work on.
5. Develop a hypothesis or project statement.

Idea-Finding

6. Design an instrument, questionnaire or survey to get research data about self/or others.
7. Read related research literature on one's chosen topic and/or interview "experts" in the field.
8. Summarize and take notes and outline data gathered.
9. Interview peers on subjects to gain their views on the research topic (paper/pencil, photographs, tape recording).
10. Observe peers' behavior in relation to research project.
11. Work with school counselor to evaluate progress of research as well as gain the attitudes of a social scientist from a "bona fide" social scientist.
12. Throughout the researching, teachers conduct mini workshops to gain skills on interpersonal topics like listening/responding, friendship making, conflict resolution, talent scouting, valuing.
13. Compile data and construct charts, graphs, tables, etc.
14. Plan goals for changes in behavior for self.

Solution Finding

15. Write about findings under the following topics: Project statement, Related Research Literature (resources used), Findings, Conclusions and Recommendations for Solutions, Appendix, Acknowledgments, Bibliography.

Acceptance Finding

16. Design a 3-panel display to share findings and solutions.
17. Practice sharing project orally with G/T peers as the audience.
18. Share, plan and devise an oral presentation for grade level, parents, and teachers.
19. Write a spoof on the research project.

Evaluation:

1. Pre/Post test on skills, knowledge and attitudes of a social scientist.
2. Implement goals on self change set in project.
3. Display of products.
4. Written report.
5. Oral presentation for grade level sharing.
6. Write thank you letters and acknowledgments to contributing social scientist.

Bibliography:

1. Creative Learning Systems - Kit on Interpersonal Communication (Listening/Responding Skills).
2. Interact - Simulations in Game Form (Examples - Being A Biographer).
3. The Ungame, Social Security.

METHODS AND TECHNIQUES USEFUL IN EACH STEP OF CREATIVE PROBLEM-SOLVING

THE MESS AND FACT-FINDING

1. Overview 5-step process
2. Build upon basic creative thinking strategies.
3. "Balance" between convergent and divergent thinking.
4. Defer Judgment
5. Ground Rules:
   a.) Defer Judgment
   b.) Quantity is emphasized.
   c.) Wild-silly ideas are OK
   d.) Hitch-hike; seek combinations
6. Search experience for your own "Messes"
7. DeBono's "Drawing on a Blank Sheet"
8. DeBono: Praise/Clarify Criticize/Amplify
9. Use management forms to work through the steps.
10. STRETCH—use all the senses; observe!
11. Know / Need to Know
12. 5W's + H

PROBLEM-FINDING

1. Invite Many Ideas or Ways of Viewing the Problem
   IWWMI/IWWMW
   H2
2. Redefine the Problem
   Ask Why- make it more general

   Why Else?

   What do I hope to gain or accomplish?

   Look for sub-problems
3. Consider New Viewpoints
   Search through the list of Facts

   Change Key Words
4. Focus Problem Statement

   Improvement
   Change
   Substitute
   Combine
   Modify

IDEA-FINDING

1. Remember: Defer Judgment!
2. Searching for Possibilities
   Brainstorm
   Checklists
   Attribute Listing
   SCAMPER
   Forced Relationships
   Morphological Analysis
   What If/ Just Suppose
3. Search for New or Unusual Ideas, Combinations, or Connections

   Synectics
   Visualization
   Imagery
   Excursion
   Fantasy-Force Fit
4. Accept and Encourage ALL ideas -- even those that seem wild and silly.
5. Hitch-hike—search for new combinations.
   What if the opposite were true?
   If you had a magic wand to use...
   That suggests to me...

SOLUTION-FINDING

1. Brainstorm for Criteria
2. "Will it..." Question
3. What's good about it? What's bad about it?
4. Preliminary screening of Idea List can help define and focus criteria.
5. Use a grid or matrix to analyze ideas systematically.
6. Take one CRITERION at a time; evaluate the ideas on that criterion.
7. Use simple evaluation systems at the beginning. ("K.I.S.S.")
8. Don't look only for ONE idea—
   Promising ideas?
   Combinations of ideas?
   Modifications?
   New Ideas?

ACCEPTANCE-FINDING

1. Consider specific steps in the Plan of Action. First? 2nd? etc.
2. Use 5W's + H to study details of each step.
3. Consider resistance, obstacles, objections for each part of the POA
   Who NOT?
   When NOT?
   Where NOT?
   What NOT?
   Why NOT?
   How NOT?
4. Call for action to begin promptly.
   24 Hour Step
   Week — Month —etc.
5. Consider how you will decide whether or not you have succeeded.
6. What could go wrong? What will you do if that does happen? What's the worst possible thing that could happen?

NAGC Convention Session, Donald Treffinger, 1983.

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MODEL: **ADAPTED SANDY KAPLAN'S MODEL**

TITLE: ANIMAL LIFE CYCLES--GR. 2
ORIGIN OF NUMBERS--GR. 6
PROCESSES OF A SUCCESSFUL COMMUNITY--GR. 8
THE EPIC--GR. 12

FOCUS:
- self initiated and self-directed learning and growth
- self-understanding of one's relation to persons, societal institutions, nature and culture

GRADE: 2-12

LENGTH OF TIME: varied

NAME OF TEACHER: Hawaii District Teachers

SCHOOL: Hawaii Schools

____
Title

Gr.____________

Characteristics **Entry Skills**

Purposes and Objectives

Content (what)	**Process** (How)	**Product** (End Results)	**Resources**	**Delivery System** (When)

Procedure

Adapted from Sandra Kaplan N/S-LTI-G/T

Animal Life Cycles
Title

Gr. 2nd

Characteristics	**Entry Skills**
highly critical self-directed	alphabetizing chart making

Purposes and Objectives

After viewing film on animals and doing research work the students will make charts on the similarities and differences of the animals. They will share with class and school.

Content (what)	**Process** (How)	**Product** (End Results)	**Resources**	**Delivery System** (When)
animal life cycles	critical thinking creativity	chart life cycle drawings	animal books encyclopedia How To Books magazines texts zoo	group individually

Procedure

1) View & discuss film on life cycles of animals
2) Teach skill of categorizing a) leaves b) geometric shapes & c) words concrete to abstract
3) Look at life cycles through a) encyclopedias b) How To Books c) magazines d) texts
each person draws the life cycles
4) Visit the zoo (observation, drawing of animals)
5) Categorize zoo animals
6) Self select 1 animal
7) Read for general information on selected animal
8) Make life cycle of different animals
9) Compare similarities & differences of the animals and put on charts
10) Present charts to class
11) Display in library

Adapted from Sandra Kaplan N/S-LTI-G/T

Origin of Numbers
Title

Gr. 6

Characteristics	**Entry Skills**
creative students	research skills
self-directed	working knowledge of our number system
able to solve problems	Know how to make charts

Purposes and Objectives

After having read chapter 2,* each student will create his/her own number system by examining number systems of 3 types of civilization, using them in number problems and by making up their own number systems.

Content (what)	Process (How)	Product (End Results)	Resources	Delivery System (When)
number systems	problem solving creativity	chart game own number systems	*Holt gr. 6 Inquiring About Technology	group

Procedure

1. Read about the Roman, Arabic, and Egyptian civilizations and their number systems using more than 1 source.
2. Brainstorm for common threads among the three civilizations.
3. Compare and contrast the number systems.
4. Make a chart of the 3 number systems.
5. Create your own number system.
6. Create your own number problems with the new no. system and make it into a game.
7. Present the game to the class and put in the library for others to use it.

Adapted from Sandra Kaplan N/S-LTI-G/T

Processes of a Successful Community
Title

Gr. 8

Characteristics	Entry Skills
enjoys interaction of others curious about environment	definition of community

Purposes and Objectives

After viewing and reading The Lord of Flies and other writings, the students will justify whether or not the community in the Lord of Flies was successful by holding a forum. Then the student will compare it to his own community, and write a parable.

Content (what)	Process (How)	Product (End Results)	Resources	Delivery System (When)
literature	critical thinking affective	forum	Lord of the Flies S.S. basal text	large group individually

Procedure

1. Brainstorm what makes a successful community.
2. Read about successful communities.
3. Collate information into 1 chart the characteristics of a successful community.
4. Skills teaching--note taking, outlining forum.
5. Compare a successful community and the criteria for a succesful community and the community in Lord of the Flies.
6. Report writing--application of skills.
7. Compare whether the student's community is successful.
8. Presentation of forum to own class, other classes.
9. Locate and share other parables in literature--Gulliver's Travel, Animal Farm. Write your original parable.

Adapted from Sandra Kaplan N/S-LTI-G/T

The Epic
Title

Gr. 12

Characteristics	Entry Skills
independent learners learns easily and readily active imagination	composition mastery skills

Purposes and Objectives

After reading and discussing Odyssey and another independent work judged to be of epic quality, he will compare and contrast the rhetorical devices, setting, characters, theme, plots, and write his own epic.

Content (what)	Process (How)	Product (End Results)	Resources	Delivery System (When)
English	critical thinking	his own epic story seminar	Odyssey other epic works	individually group

Procedure

1. Read Homer's Odyssey.
2. Research to identify mythical character allusion in the Odyssey and share knowledge with class.
3. Read another work commonly judged to be of epic scope and quality.
4. Compare and contrast both the Odyssey and the other works.
5. Participate in a seminar discussion regarding both works.
6. Write your own epic using the qualities that denote a true epic.

Adapted from Sandra Kaplan N/S-LTI-G/T

MODEL: **KOHLBERG'S & ERICKSON'S**

TITLE: I am What I Believe In

FOCUS:
- Present content that is related to broad-based themes, issues, and/or problems.
- Develop independent and self-directed study skills.
- Develop research methods and skills.
- Encourage the development of self-understanding, i.e., recognizing and using one's abilities, becoming self-directed, appreciating likeness and differences between oneself and others.

GRADE: 4-6 gr.

LENGTH OF TIME: 5 weeks of daily 45-minute periods.

NAME OF TEACHER: Ruth Chun
SCHOOL: Red Hill Elementary School

APPROX. AGE	ERIK ERIKSON (PSYCHOSOCIAL DEVELOPMENT)
Birth	TRUST VS. MISTRUST Loving, nurturant parents can strengthen trust in world and self. Basic needs include nourishment, sucking, warmth, cleanliness and physical contact. Relation with mother extremely important.
1 year	AUTONOMY VS. SHAME AND DOUBT Children learn to be self-sufficient in many activities, including toileting, feeding, walking, and talking, or to doubt their own abilities.
2 years	Acquire sense of being capable of doing things themselves.
3 years	INITIATIVE VS. GUILT Children want to undertake many adultlike activities, sometimes overstepping the limits set by parents and feeling guilty.
6 years	As the child acquires rules of conduct, some freedom can be provided for growth of initiative.
7 years	INDUSTRY VS. INFERIORITY Children learn to make and produce things. Busy learning to be competent and productive. Dramatically expanded social world invites comparisons with peers which might initiate sense of inferiority.
12 years Adolescence	IDENTITY VS. ROLE CONFUSION Adolescents try to figure out "Who am I?" Establish sexual, ethnic and career identities. Integration of roles and ideals or become confused about what future roles to play.
Adulthood 25 years	INTIMACY VS. ISOLATION Close personal relationships. Young adults seek companionship and love with another person or become isolated from others. GENERATIVITY VS. STAGNATION Adults are productive, performing meaningful work and raising a family, or become stagnant. Concern with welfare of society and next generation.
45 years	INTEGRITY VS. DESPAIR Satisfaction in life, accomplishments or despair. Life is meaningful or goals are not reached.

LAWRENCE KOHLBERG (PSYCHOSOCIAL DEVELOPMENT)	APPROX. AGE OF GIFTED
(THEORY OF MORAL DEVELOPMENT) Internalization of principles that regulate one's conduct in human relations. Everyone must pass through the five stages sequentially, but not necessarily at the same age; majority of adults in our culture never reach the fifth stage of principled morality. Believes it is possible to establish moral climates to benefit moral development in different degrees.	
	1 year
PRECONVENTIONAL LEVEL STAGE 1: PUNISHMENT-OBEDIENCE LEVEL Authority figures dictate child's action (to avoid punishment). Physical consequences of action determines goodness and badness.	2 years
STAGE 2: INSTRUMENTAL RELATIVIST ORIENTATION Idea of Reciprocity - "You scratch my back, I'll scratch yours." Concern for rewards - "What's in it for me?" External control and concrete consequences.	4 years
CONVENTIONAL LEVEL STAGE 3: INTERPERSONAL CONCORDANCE WITH GOOD BOY/NICE GIRL ORIENTATION Seeks to meet the expectations of others. Good behavior is that which pleases or helps and is approved by others. Ability to see situations from the position of other persons helps determine action of child.	6 years 7 years
STAGE 4: THE LAW AND ORDER ORIENTATION The law, rules of the social system and a desire to do one's duty gain consideration. Orientation toward fixed rules, authority, and maintenance of the social order. Avoidance of guilt and social disapproval motivates child. (Kohlberg believes only 10% of adult population go beyond this externally controlled level.)	12 years Adolescence
POST-CONVENTIONAL, AUTONOMOUS OR PRINCIPLED LEVEL STAGE 5: SOCIAL-CONTRACT LEGALISTIC ORIENTATION WITH UTILITARIAN OVERTONES General individual rights critically examined and agreed upon by whole society govern action.	Adulthood 25 years
STAGE 6: THE UNIVERSAL ETHICAL PRINCIPLE ORIEN. Internal commitment to principles of one's own conscience.	

Ruth Chun '83

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TITLE: I AM WHAT I BELIEVE IN

Learners: Students with strengths in Language Arts

Model/Approach: Integrated Models Approach with focus on Kohlberg's Theory of Moral Reasoning

Generalization: The development of meaningful and valid values helps individuals function successfully in society.

Objectives:

1) The students should become familiar with, discuss, and apply in specific written and oral situations the theories of Erik Erickson (Eight Crises of Man) and Lawrence Kohlberg (Theory of Moral Reasoning).
2) The students should understand and respect other people's values.
3) The students should examine one's own reasoning and the reasoning of others in order to solve social and moral problems.
4) The students should take role parts of others in dilemmas and social situations and see the other side.
5) The students should engage in discussions of social and moral problems.
6) The students should analyze one's own behavior with reference to one's beliefs.
7) The students should realize that values are relative and do change.

UNIT PLAN: I AM WHAT I BELIEVE IN

A. Initiate the unit with a "Guess the Value" activity.
   1. Students are asked to select a value they are familiar with and would feel comfortable demonstrating in front of the class.
      a. Students should present the value to their classmates using creative dramatics (expression).
      b. Audience should try to guess what is being presented.
   2. Teacher should keep track of values selected so students will not duplicate in presentations.
   3. Teacher provides time afterwards for students to discuss and evaluate their presentations.
   4. Teacher then leads discussion around to focus on values that help to develop the theme of Justice (Fairness); such as, RESPONSIBILITY, HONESTY, FRIENDSHIP, SHARING, TRUTH, RESPECT, SELF-ESTEEM, DETERMINATION, PATIENCE, KINDNESS, CARING, HUMOR, COURAGE, CURIOSITY, IMAGINATION, FAIRNESS, SAVING, LEARNING, GIVING, UNDERSTANDING, LOVE, BELIEVING IN ONESELF, TRUST, and DEDICATION.
      a. Draw from students' examples of the above.
      b. Check to see if students understand the concepts.
   5. Teacher provides students with a rating checklist (attached) of the values discussed to find out what they consider to be their well-developed as well as weak values. (This is used as a pre-test instrument.)
      a. Students will rate themselves from 1 to 10 for each value listed, with 1 being the least developed.
      b. Students should rank their list of values, prioritizing from the greatest need for development to the most highly developed.
   6. Lead questions are introduced to redirect students' thinking:
      a. How do we acquire our values?
      b. What are values?
      c. Why do our values differ (in kind and degree)?
      d. Why do our values change?
      e. How can we improve on certain values?

B. Introduce two theories of human development (chart attached) to show students how certain theorists think humans develop physically, socially, emotionally, and morally.

1. Using the chart as a guide, provide students with resource materials and handouts on the two theories of development.
    a. Erik Erikson's "Eight Crises of Man"
    b. Lawrence Kohlberg's "Theory of Moral Reasoning"
2. Through discussion questions draw anecdotal examples from students for each stage of development from each theory.
    a. For Erikson's theory have students give examples of both extremes for each crisis.
    b. For Kohlberg's model have students use living examples for each stage with reasons for their choices.
3. After analyzing the theories, have students examine their own thinking on moral issues and problems (how they feel and the opinions they hold) to decide where they are in Kohlberg's model.
    a. Students should identify their stage and level and give reasons for their decisions.
    b. Students should share their decisions and through group discussions either confirm, modify, or disagree with each decision.
        1) In cases of disagreements, revert to dilemma activities so students can re-evaluate their decisions.
        2) For the teacher, this is a good opportunity to identify levels and stages of students which should be used in the future for evaluation purposes.

C. Have students select one of their least developed values to work with as the basis for a research project.

1. Students will need to define their selected value, using whatever references they feel are necessary.
    a. Teacher provides help in obtaining references that are not available within the school.
    b. Fieldtrips to public libraries and university libraries for research materials can be scheduled.

    c. Resource speakers should be brought in.
        1) University
        2) Parents
        3) Community

2. Students should be asked to keep a daily record of all the times they are aware of having practiced the selected value and of the other times when they are aware of situations when they fail to do so.
    a. Using a composition book as a journal or log, have the students make daily entries over a five week period.
        1) Use the first half of the book for "Living by the Value" entries.
        2) Use the latter half of the book for "Failing to Do So" entries.
    b. By pointing out incidents during class when situations may occur, the teacher can help the students become more aware of and focus on their selected values.
    c. By setting the example, classmates will soon join in to point out these examples for others also.
        1) At this point the entire group will begin to zero in on the specific values selected by each member of the class.
        2) From this point the students will become more conscious of values in general.
3. Students should be asked to read a biographical sketch of a person who is recognized in their life for living the value they have selected.
    a. Students should be expected to record examples of how the person was able to develop the particular value to such a strong degree.
    b. Students should be asked to keep anecdotes of incidents when this person developed and exercised the value.
    c. Students should draw conclusions of how the value helped the person succeed in life.
4. Students should select someone from their community or someone they are quite familiar with who demonstrates the value consistently.
    a. The student should interview the person to obtain information needed to do a comparative study with the biographical person.
    b. The student should gain permission from the individual to print information that may be used.

5. Students should analyze their journals to look for patterns and other changes that may have developed as they recorded themselves over the five-week period.
    a. Teacher may need to guide students to zero in on pertinent data.
    b. Discussions may be necessary to clarify information and to refocus.
6. Students will use the data gathered to write a paper about their study.
    a. Students should use the information to answer the questions:
        1) What effect, if any, did your comparative study of the two people have on you?
        2) What are your reasons for believing this?
    b. Students should use information gathered from research, interview, and journal to complete their paper for publication.

Materials Needed

1. Handouts from printed sources
2. Developmental chart on Kohlberg and Erikson (teacher produced)
3. Teacher made materials on the theories
4. Reference books
5. Composition books and note paper
6. Pencils, pen, etc.

Evaluation: Students are pre and post tested with the values rating sheet attached, and a comparison of the scores are done to see if any growth occurs. Because of the short length of time, the data will not be significant. However, if growth does occur, this would indicate the importance of constant exposure to moral education in school as a means of developing the total child. The students are also provided with a values questionnaire to respond to. This questionnaire (attached) should provide teachers with a general profile of what values are important to the student and give an indication of where the child may be on Kohlberg's stages of moral development. The use of dilemmas should verify the placement.

An examination of the student's writing products would indicate the child's understanding of the content of the unit and the processes used in the development of the unit.

Bibliography:

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I AM WHAT I BELIEVE IN

VALUES QUESTIONNAIRE

Directions: Answer each question by rank ordering the choices. Place a 1 in front of your first choice, a 2 in front of your second choice, and a 3 in front of your last choice.

* * *

1. Which is most important in your friendship?

   ___loyalty
   ___generosity
   ___honesty

2. If you were given $500 by a millionaire, what would you do with it?

   ___save it
   ___give it to your parents
   ___buy something for yourself

3. Which would you rather be?

   ___an only child
   ___the youngest child
   ___the oldest child

4. If you were President, which would be most important to you?

   ___Space Program
   ___the poor, old, and needy
   ___Defense Program

5. Which would you least like to be?

   ___very sickly
   ___ugly or disfigured
   ___very poor

6. What kinds of friends would you like to have?

   ___smart or intelligent
   ___good personality
   ___nice looking

7. Which one should we spend the most money on?

   ___space travel
   ___education
   ___cure for cancer

8. When you worry about a poor grade in a test, do you think about

   ___yourself?
   ___your parents?
   ___pleasing the teacher

9. Which type of teacher would you like to have?

   ___strict but little homework
   ___strict and lots of homework
   ___easy going in class but lots of homework

10. Which would you most like to improve?

    ___your grades
    ___your looks
    ___your social life

11. When do you have the most fun?

    ___alone
    ___in a large group
    ___with a few friends

12. If you had $500 to spend for your bedroom, would you spend it

    ___all on furniture
    ___half on furniture and the rest on computer games
    ___all on computer games

13. Which would you rather have your mother give you for your birthday?

___$10 to buy yourself something
___a $10 gift of her choice
___something she made for you

14. If your best friend's parents were constantly fighting, what would you like them to do?

___get divorced and father leaves
___stay together and hide their feelings for your friend's sake
___get divorced and your friend leaves with his father

15. What would you do for your parents on their anniversary?

___buy them a nice gift
___make dinner for them
___treat them to a dinner by themselves

16. If you had two hours to spend with a sick friend, what would you do?

___tell your friend what you have been doing
___read to your friend a story you enjoy
___tell your friend all the things he/she has been missing

17. You spend a lot of time picking out a gift for your friend. If your friend doesn't like it, what would you rather he/she do?

___keep the gift and thank you politely
___tell you he/she doesn't like it
___return it to the store without telling you

18. If you see a friend steal a toy from a neighbor's yard, would you

___stop being his/her friend
___tell him/her to put it back
___overlook it

19. Which measure should be taken to avoid over population?

___keep abortions legal
___limit the number of children in a family
___charge extra taxes for for those over the limit

20. If you found a $5 bill in the supermarket, what would you do?

___keep it
___take it to the manager or clerk
___ask your parents what to do

21. Which do you most want money for?

___to buy your own things
___to go places on your own
___to feel independent

22. What is your most serious problem in school?

___"mean" teachers
___student behavior against you
___your attitude towards school

23. Which do you admire most?

___jet fighter pilot
___astronaut
___surgeon

24. Which would you be most willing to do as an adult?

___serve in the military ___serve in the Peace Corps ___teach in the slums or ghetto

25. Which would you must like to see happen?

___Russia and the U.S. compete further on nuclear weapons

___Russia and the U.S. unite under one government

___Russia and the U.S. go to war to find out who is more powerful

26. What is the worst crime?

___murder ___rape ___selling drugs

27. Which job would you prefer?

___working in a mental institution

___working in an old people's home

___working in a prison

Student______________________________Grade______Date______________

Name ______________________ Grade ____________ Date ____________

I AM WHAT I BELIEVE IN

SELF EVALUATION SHEET

Directions: Please rate yourself from 1 to 10, according to how you feel you practice these values, with 1 being very weakly developed and 10 being very highly developed.

VALUES	1	2	3	4	5	6	7	8	9	10
Responsibility										
Honesty										
Friendship										
Sharing										
Truth										
Respect										
Self-Esteem										
Determination										
Patience										
Kindness										
Caring										
Humor										
Courage										
Curiosity										
Imagination										
Fairness										
Saving										
Learning										
Giving										
Understanding										
Love										
Believing in oneself										
Trust										
Curiosity										
Dedication										

MODEL: **RENZULLI'S ENRICHMENT TRIAD**

TITLE: THREE PROJECTS
ORAL HISTORY, KAELEPULU POND COMMUNITY, AND THE
COMING OF ASIATIC IMMIGRANTS TO HAWAII

FOCUS:
- Develop self-understanding and the understanding of one's relation to persons, societal institutions, nature and culture.
- Content focuses on elaborate, complex, and in-depth study of major ideas, problems and themes.
- Stresses higher level thinking skills, creativity and excellence in performance and products.
- Promote self-initiated and self-directed learning and growth.

GRADE: 3-6

LENGTH OF TIME: 2-3 months for each project

NAME OF TEACHER: Vivian Mitsuda Hee
SCHOOL: Kaelepulu and Blanche Pope
Elem. Schools

RENZULLI'S ENRICHMENT TRIAD

Type I Enrichment: General Exploratory Activities

1. Students are expected to explore activities purposefully and are responsible for suggestions for further study.
2. Interest centers, visitations, field trips, resource speakers are some ways to stimulate interest.
3. Teacher needs to be a sensitive observer of students in order to plan for type II activities.

Type II Enrichment: Group Training Activities

Methods, materials and techniques to develop thinking and feeling process such as:

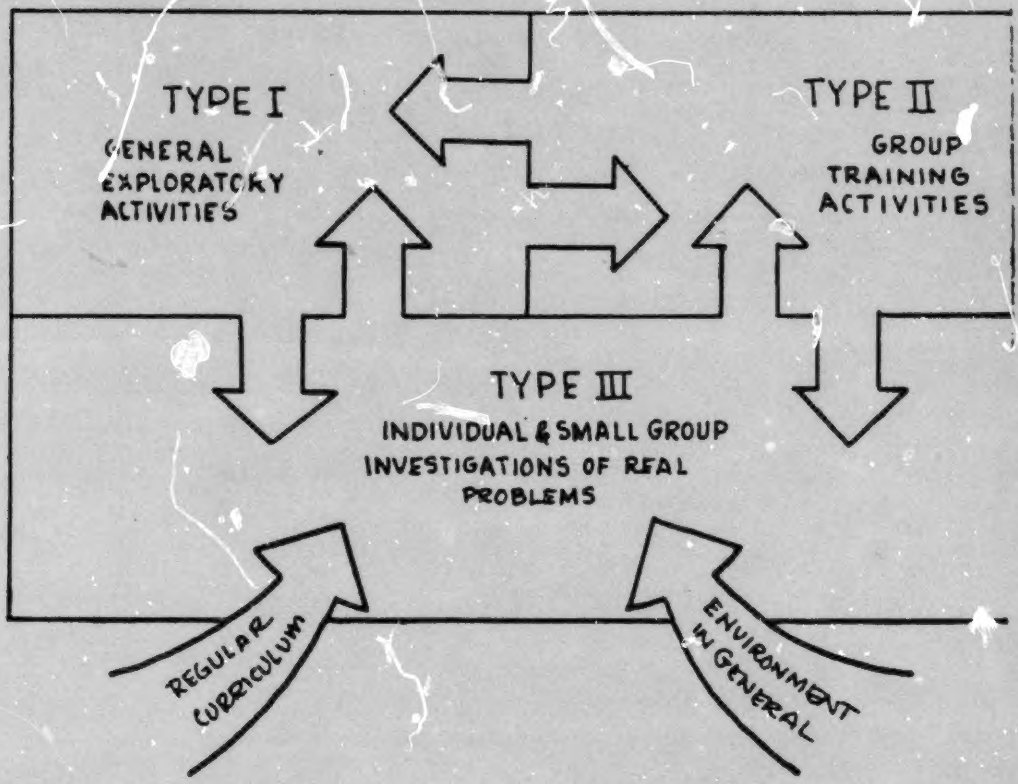
Brainstorming
Observation
Classification
Interpretation
Analysis
Evaluation

Comparison
Categorization
Synthesis
Fluency
Flexibility
Originality

Elaboration
Hypothesizing
Awareness
Appreciation
Value Clarification
Commitment

Type III Enrichment: Individual and Group Investigations of Real Problems

1. Student takes active part in formulating the problem and methods.
2. There is no routine method but there may be appropriate investigative techniques and criteria for judging product.
3. The investigation is a sincere interest of a student or group of students.
4. Student works with a producer's rather than consumer's attitude and presents results and products to real audiences.


TYPE I
GENERAL EXPLORATORY ACTIVITIES
TYPE II
GROUP TRAINING ACTIVITIES
TYPE III
INDIVIDUAL & SMALL GROUP INVESTIGATIONS OF REAL PROBLEMS
REGULAR CURRICULUM
ENVIRONMENT IN GENERAL

THE ENRICHMENT TRIAD MODEL

Author: Joseph S. Renzulli
Book: The Enrichment Triad Model: A Guide for Developing Defensible Programs for Gifted and Talented
Source: Creative Learning Press, Inc., P.O.Box 320
Mansfield Center, CT 06250

Level: 4-6 grade

Time: 2½ months

Title (Unit or lesson): ORAL HISTORY

Five residents who had lived in the Waimanalo area during the 1900's were interviewed and records of these interviews were placed on tapes. These tapes were donated to the Waimanalo Public Library to help them start their Oral History Collection.

Learners (Description and no.)

These 21 potentially gifted students were from the Waimanalo area. Most of them had poor listening habits and needed to develop questioning skills and organizational skills. They also needed to appreciate the elders in the community and to realize the wealth of information that these senior citizens possessed. This project was also undertaken with the understanding that the students would be giving something back to the community in which they lived.

Focus for Differentiation (Principle):

- explore constantly changing knowledge and information and development of the attitude that this knowledge is worth pursuing.
- develop self-understanding and the understanding of one's relation to persons, societal institutions, nature and culture.

Approach (Model/Strategy):

It will adapt the Renzulli Triad Model.

Content (generalization)

Oral history is a valuable primary source of information.

(concepts)

Records, printed documents and artifacts provide information on civilizations' accomplishments.

Facts are subject to varying interpretations, influenced by beliefs, values or points of view.

The value of oral history is the feeling of the emotion and hearing the actual language spoken.

Important information can be transmitted from generation to generation by word of mouth so students should value oral information.

Processes (Lesson/unit):

See STEPS ONE MIGHT TAKE TO DO AN ORAL HISTORY

Products (Pupil/class)

Tapes and outline of summary of tapes presented to Waimanalo Community Library

Duplicate tape and paper bouquet presented to honored interviewees in special ceremony

Evaluation (teacher made or others used):

A Scale for Rating Independent Study was used throughout the project.

STEPS ONE MIGHT TAKE TO DO AN ORAL HISTORY

1. Arouse student's interest by showing pictures of past and present target area, books, magazines, lectures by local residents and tour of the area.
2. Develop questions through brainstorming and webbing and after testing them out with family members, best questions can be selected.
3. Learn social and etiquette skills required when visiting and interviewing someone.
4. Listening skills could be developed.
5. Contact former target area residents and select those who appear to have the most to offer as interviewees.
6. Research important historical occurrences in the target area for background information.
7. Outline strategy for interviewing by wording and organizing questions to be asked of interviewees.
8. Make second contact with interviewees and record information on tapes.
9. Edit, outline and summarize the information.
10. Have a special ceremony for the interviewees where students can:
    a. summarize the person's life
    b. give a brief outline of the tape
    c. present interviewees with a duplicate tape and flowers
11. Original tapes can be donated to school or local library for their Oral History Collection. Where appropriate, tapes can be made available to the general public.

ORAL HISTORY

TYPE 1 (EXPLORATORY)	TYPE 2 (SKILL BUILDING)	TYPE 3 (INVEST. OF REAL PROB.)	PRODUCT
learning center with photos and mementos of old Waimanalo borrowed from libraries and brought in by students (1)		small group of 5 students interviewing a particular Waimanalo resident	presentation of tapes to Waimanalo library to help them start their oral history collection (11)
	questioning skills (2)	search for Waimanalo residents living during the early 1900's (5)	
lecture by historian from Waimanalo area (1)	map skills (5)	investigate and locate residences (5)	
tour of Waimanalo area (1)	research skills (6)	research information regarding conditions in rest of world (eco., political, etc.) during resident's lives (6)	special event to honor residents (10)
exploratory study for elderly Waimanalo residents (5)	inquiry training (7)	interview family members, classmates and residents (3,8)	paper bouquet/tape presented to honored residents (10)
	interviewing skills		
	revising skills brainstorming webbing (2)	outline strategies for interviewing (7) development of draft (7) recording and sequencing of facts (9)	abstract and outline of summary of tape (10)
	skills to validate information (9) technical/mechanical skills (8) listening skills (4) editing and summarizational skills (9)	collection of primary sources (10) comparative study of Waimanalo made from past to present (1,6)	
			REAL AUDIENCES
			tapes available to public
			news article in Sun Press newspapers
			special event taped on Channel 12 for "Waimanalo Country"

NOTE: (_) Numbers indicate "Steps One Might Take..." as listed on previous page.
___ Dotted line indicates that activity could be simultaneously done.

Vivian S. M. Hee

Level: 3-6 graders
Time: 3 months

Title (Unit or lesson): KAELEPULU POND COMMUNITY (ENCHANTED LAKES)

Learners (Description and no.):

This group of 14 students were of high academic ability, independent workers and had mastered the basic skills. They were particularly interested in their community, especially the Kaelepulu Pond located across from their school. Half of them were scientifically talented and 5 were methodical in research work. Due to the difference in age level and the varied interests of the students, they needed to work together. By doing this group project, they were able to utilize their individual talents and learn process skills.

Focus for Differentiation (Principle):

- focuses on elaborate, complex, and in-depth study of major ideas, problems, and themes that integrate knowledge with and across systems of thought.
- exposes selection and use of appropriate and specialized resources.
- stresses higher-level thinking skills, creativity, and excellence in performance and product.

Approach (Model/Strategy):

It will adapt the Renzulli Triad Model

Content (generalization)

Where you live affects the environment, and the environment affects you.

(Concepts)

People live near an environment that can provide them with necessities as well as recreation.

Where people live involves planning to make it function.

If the environment isn't taking care of its riches, then it will no longer benefit mankind.

Students should develop an awareness of themselves in relation to their environment and the need for wise use of the environment.

Processes (lesson/unit):

See STEPS TAKEN TO DO KAELEPULU POND COMMUNITY

Products (Pupil/class):

- students' independent research projects compiled into a book
- slide/tape presentation of Kaelepulu Pond
- maps, bar graphs, illustration and questionnaire forms

Evaluation (teacher made or others used):

A Scale for Rating Independent Study was used throughout the project. Students helped to formulate a criteria for the evaluation of the slide/tape presentation which included some of the following ideas: information given--interesting, sufficient; voice on tape--loud, clear, articulate; visual--pictures clear, matches with the script; etc.

STEPS TAKEN TO DO A KAELEUPULU POND COMMUNITY

1. Brainstormed idea for study of community project. After selecting the pond, various aspects of the pond were explored for study.
2. Students worked independently and focused on their own topics by doing webbing, questioning skills, research skills--how to take notes, finding resources, etc., learning problem-solving techniques, critical thinking and interviewing skills. Students used many different resources to gather information.
3. All of these ways for collecting data were utilized:
    a. field trips to - Hawaii State Library--main branch Hawaiiana section
        - Archives
        - pond for further study and sample collecting
    b. pond findings of pollution through former AGT student's project was shared
    c. lectures by - former resident of Kaelepulu Pond
        - land developer of Lone Star Construction Co.
        - science resource teacher--how to use scientific equipment and chemicals
        - state aquaculturist regarding micro-organisms in pond
4. All research findings were compiled in a book with charts, bar graphs, pictures, illustrations.
5. The book was presented to the school for its library.
6. To share information further to other audiences, the following skills and techniques were learned for slide/tape presentation: timing, photography, editing, taping musical background and script writing.
7. The slide and tape were completed and presented to various audiences.

KAELEPULU POND COMMUNITY

TYPE 1 (EXPLORATORY)	TYPE 2 (SKILL BUILDING)	TYPE 3 (INVES. OF REAL PROB)	PRODUCT
interest centers books, magazines on pond life items brought back from pond, news clipping of Kawainui Swamp (1)	research skills (2)	some of the students' individual reports	all of students' research compiled into a book (4,5)
lecturer on historical and developmental aspect of pond by land developer of Lone Star Construction Co. (3)	questioning skills (2) interviewing skills (2)	Historical Aspect of Pond interview with former residents of pond area and land developer, finding information through plantation journals regarding area around pond (2,3,4)	slide/tape presentation of Kaelepulu pond (6)
	survey skills (2) interviewing skills (2) skills in inferencing and interpreting (2)	Survey of Kaelepulu Residents' Reaction to Living Near the Pond Area conduct a poll use mathematical concepts--bar graph, percentages, etc. (2,3,4)	maps, bars, graphs, illustrations and questionnaire form (4,5)
lecture and slide/tape showing by state aquaculturist regarding micro-organisms in	training activities for scientific methodology and laboratory techniques by science resource teacher (2)	Conclusions of Pollution in Kaelepulu Pond use of scientific equipment to determine chemical contents in water collect real specimens from pond at various areas and times (2,3,4)	REAL AUDIENCES
former AGT student shared his study of pollution of Kaelepulu pond (3)	creative thinking problem solving activities critical thinking (2)	How Much Salinity Is There In Kaelepulu Pond? What Sections Had a Higher Concentration of Salt? work with Kailua fire station and meteorologist at Honolulu International Airport regarding amount of rainfall in the area; use of scientific equipment to determine salinity in water (2,3,4)	PTA and residents of Kaelepulu Gifted Children's Fair Windward District Librarians gifted teachers of Oahu/neighbor islands (7)
field trips to Kaelepulu pond Archives Library of Hawaii-Hawaiiana sect. (3)			

NOTE: (_) Number indicates "Steps Taken..." as listed on previous page.
_ _ _ Dotted line indicates that activity could be simultaneously done.

Vivian S. M. Hee

Level: 3-6 graders
Time: 3 months

Title (Unit or lesson): COMING OF THE ASIATIC IMMIGRANTS TO HAWAII

A comparative study of why, and when they came, influence of the background including nature of the country of origin (Japan, Korea, Philippines, and China); adaptation to Hawaii and the problems they encountered.

Learners (Description and no.):

These 15 students were capable, independent workers and for half of the group, this was the first time they were in the AGT program. They were basically quiet, shy and afraid of speaking to even a small group. Most of them were 3rd and 4th generation acculturated to the cosmopolitan cultures of Hawaii. They lacked the knowledge of their own cultural heritage. One of the purposes was to provide the students with a closer relationship with their parents and grandparents by learning about their own culture.

Focus for Differentiation (Principle):

- develop productive thinking to reconceptualize existing knowledge and/or generate new knowledge
- expose selection and use of appropriate and specialized resources
- develop self-understanding and the understanding of one's relation to persons, societal institutions, nature and culture
- self-initiated and self-directed learning and growth

Approach (Model/Strategy):

It will adapt the Renzulli Triad Model

Content (generalization):

Humanity must cooperate and learn respect for one another's culture.
(concepts)

People from many different social, economic ethnic and national groups have settled in the United States.

Each human being is different physically, mentally and emotionally from others and yet, is like others in needs and feelings.

People migrate to other lands to improve their standard of living.

Cultural difference among groups, stem from different backgrounds, experiences; environment will cause a conflict of values for the immigrant.

Immigrants faced the problem of a new language, culture and values.

The varied backgrounds of many individuals and groups that came to Hawaii have blended to form a national culture with local and regional differences.

Processes (Lesson/unit):

See STEPS TAKEN TO DO COMING OF THE ASIATIC IMMIGRANTS TO HAWAII

Products (Pupil/class):

performance of a play entitled "Coming of the Immigrants to Hawaii," written, directed and acted by the AGT students

props, costumes, dances, scenario, international food fair

Evaluation (teacher made or others used):

A Scale for Rating Independent Study was used throughout the project.

Students helped to formulate a criteria. Final evaluation was made according to the following: independence of student working, research accomplished, resources used, accuracy of information in the script, writing and quality of production and completion of project.

STEPS TAKEN TO DO "COMING OF THE ASIATIC IMMIGRANTS TO HAWAII"

1. Aroused interest through films, foreign magazines, artifact displays of various countries, etc.
2. Students chose four countries and selected which one they were interested in.
3. Students organized themselves into committees and shared the task. Each worked independently on his/her own topic. These are the things they did: brainstorm, webbing, question skills, research skills--how to take notes, finding resources, outline skills etc., critical thinking and problem-solving methods.
4. Research information was received mostly through primary sources:

   interviews - East West Center students
   Board of Director of Bishop Museum
   family, friends and residents
   lectures by - Immigration Department officer
   Korea NATO expert
   field trips to - various consulates
   Honpa Hongwanji Temple
   Korean Studies Center
   Chinatown
   Kwan Yin Temple
   course in calligraphy by calligraphy expert

5. Compiled information on a large chart and compared and contrasted the various countries with emphasis on the nature of the immigrants to Hawaii. Then they discussed ways for sharing information and decided to do a play.
6. Using research information students learned skills for writing dialogues and script.
7. Cast was selected according to best logicstics of time and talent.
8. Students made props, costumes and scenarios.
9. The play was presented to various audiences. After the performance the class critiqued the performance.
10. Additional feature of follow-up of study: students reorganized and presented play through techniques of T.V. media.

STEPS TAKEN TO DO "COMING OF THE ASIATIC IMMIGRANTS TO HAWAII"

TYPE 1 (EXPLORATORY)	TYPE 2 (SKILL BUILDING)	TYPE 3 (INVEST. OF REAL PROB.)	PRODUCT
films on cultures of different countries (1)		students working in groups of 5-6 on a particular country--Japan, Korea, China and Philippines (2)	performance of a play entitled "Coming of the Immigrants to Hawaii" which was written, directed and acted by the students (9)
lecture on Korea by NATO expert (4)	critical thinking (3,9)	compare/contrast the countries by the type of food, clothing, education, language, music and immigration problems (5)	
introduction to the history and language of foreign countries by local people knowledgeable in the culture and fluent in the language (3)	research skills (3)	interview East West Center's foreign students (4)	props, costumes, dances, scenario (8)
		interview Board of Director of the Bishop Museum regarding Phil. culture and immigration (4)	international food fair (9)
lecture by head of State Immigration Department officer regarding immigration problems in Hawaii--past and present (4)	evaluative skills (9)	tour of various consulates Kwan Yin Temple Honpa Hongwanji Temple Korean Studies Center Chinatown (4)	
		course in calligraphy by calligraphy expert (4)	
	display skills (9)	find and collect artifacts to exhibit (9)	**REAL AUDIENCES**
	skills in writing dialogues (6)	write a script for their section of the play incorporating research information (6)	presentation of play to parents, AGT students of Waimanalo, Kaelepulu School, district and state personnel (9)
	dramatic skills artistic/theatrical skills (7,8,9)	performance to portray various ethnic groups (7,8,9)	
			filmed for TV station Channel 12 (10)

NOTE: (_) Numbers indicate "Steps Taken..." as listed on previous page.
_ _ _ Dotted line indicates that activity could be simultaneously done.

Vivian S. M. Hee

Name__________________________________School____________________Grade_________

Date__________________Teacher Completing This Form______________________________

ACADEMICALLY GIFTED/TALENTED PROGRAM

A SCALE FOR RATING INDEPENDENT STUDY

Directions: This scale is designed to obtain teacher estimates of a student's performance in independent study. Please read each statement and place an X in the appropriate column according to the following scale of values:

Excellent - high level of efficiency, understanding and effect
Good - generally effective
Fair - has some difficulty
Poor - has much difficulty

CHARACTERISTICS	EXCELLENT	GOOD	FAIR	POOR
1. Uses investigative skills	____	____	____	____
2. Utilizes appropriate resources	____	____	____	____
3. Organizes information	____	____	____	____
4. Finds an appropriate outlet in product form.	____	____	____	____
5. Shares product	____	____	____	____
6. Is committed to task	____	____	____	____
7. Evaluates accomplishments	____	____	____	____
Column total	____	____	____	____
Multiply by weight	4	3	2	1
Add weighted columns	____	____	____	____
TOTAL	____	____	____	____

Windward District form used in: Oral History Project
Kaelepulu Pond Community
Coming of the Asiatic Immigrants to Hawaii

MODEL: **SCIENCE INQUIRY METHOD**

TITLE: Independent Study in Science

FOCUS:
- development and application of productive thinking skills to enable students to reconceptualize existing knowledge and/or generate new knowledge
- exposure to selection and use of appropriate and specialized resources
- promote self-initiated and self-directed learning and growth

GRADE: 7th

LENGTH OF TIME: 1 semester

NAME OF TEACHER: Edith Watanabe
SCHOOL: Washington Intermediate

PROBLEM SOLVING BEHAVIORS

1. Identify the problem; establish a set by:
    a. Recognizing problem exists--identifying some of the boundaries of problem.
    b. Defining problem and parts.
2. Generate possible solutions by:
    a. Organizing the data--making it easier to see relationships.
    b. Asking questions which may lead to modification of possible solutions.
    c. Identifying variables and controls--variables may influence outcome of investigation--as necessary in order to understand the concept of controlled experiments, to make any sort of appraisal of their designs, and to make an intelligent interpretation of possible results.
    d. Explaining and answering questions.
3. Formulate a hypothesis.
4. Test the hypothesis and collect data.
5. Review the data and draw conclusions.
6. Receive feedback on the success or failure of the conclusion:
    a. Accepting critical and/or positive feedback.
    b. Acting on suggestions in an appropriate manner which may necessitate going back to the previous stages, or may result in solving the problem.

Science Curriculum Guide Grade 7-9
OIS, Dept. of Education, Hawaii

INDEPENDENT STUDY IN SCIENCE

LEARNERS:

Potentially gifted students are part of the Washington Intermediate Accelerated Science Program (A.S.P.) in which selected 7th graders are programmed into a 1 semester Physical Science course in the 8th grade and Biology I in the 9th grade.

CONTENT:

1) Concepts, skills, processes in Biology I.
2) Independent Science Research project

Independent study provides an opportunity for students to pursue in-depth study of topics of interest to them. The Science Research paper is an excellent medium through which the academically talented student develops higher level thinking skills of analysis, application, synthesis and evaluation and may integrate curricular areas of Language Arts, Mathematics, Science, and Social Science.

Objectives are:

a. To provide an atmosphere for students to become actively involved in the solution of problems of interest to them.
b. To encourage students to make decisions continuously and engage often in self-evaluation.
c. To provide an opportunity for in-depth study of problems and to help students acquire skills and techniques necessary for the solution of such problems.
d. To teach the methodology of scientists in solving problems.
e. To develop creativity.
f. To individualize instruction.

PROCESS:

The student evaluates his area of interest, analyzes existing literature, synthesizes information into the statement of the problem to investigate. The sequential process:

A. PROBLEM FINDING

1) Brainstorming areas of interest, converging on a general topic or idea. Suggested options are:

a. The care and maintenance of an organism after which experiments are conducted. Some examples:

   Daphnia, brine shrimp, snail or fish eggs, fungi, planaria, larvae, microscopic organisms

   Experiments may involve: animal behavior, reproductive rates under various conditions such as temperature, light, media, food, etc.

b. The application of a technique or acquired skill to a new situation.

   Example:

   Chromatography (paper, thin-layer)

   1) Vary the percentage of the solvents to see which is the best for chlorophyll extraction.
   2) Use the technique to extract chlorophyll of a variety of plants and compare.
   3) Test the chlorophyll of different algae. Compare different chromatographic methods.
   4) Subject plants to different wave lengths and then do chromatograms.

c. Any topics of interest to student:

   Examples:

   1) Effect of chemicals on pollen germination
   2) Salinity tolerance of aquatic organisms--shrimps, snails, river fish
   3) Marine bacteriology
   4) Antibiotics from algae
   5) Natural insecticides

B. LITERATURE REVIEW

1) Webbing the general idea or topic with questions
2) Categorizing the questions
3) Outlining, using categories and questions

The student goes to the library (school, state and Hamilton Library, University of Hawaii) to search for answers to the questions, following the outline.

C. EXPERIMENTAL DESIGN

Based on the literature as well as his own facts and hypotheses, the student designs an experiment. Creativity in the formulation of his hypothesis and in designing the experiment is encouraged. The student must:

1) Keep an open mind.
2) Objectively gather data and withhold judgment.
3) Be willing to revise his hypothesis in light of new evidence.
4) Form logical conclusions.
5) Continue to substantiate his data, hypothesis.
6) Evaluate his data as well as his methodology.

Some topics for students to investigate include:

1) The effect of music as an influencing factor in accurate test performance
2) How age of the Agrobacterium tumefaciens culture affects the growth rate of galls on carrot discs
3) Effect of malathion on the stomatal mechanism of Setcreasea purpurea
4) A comparison of pressure receptors of handicapped and non-handicapped students
5) Extracting dyes from lichens
6) Differential growth rate of E. coli and S. marcescens on different sugar media
7) Some cultural and morphological studies of corn and sorghum isolates of Helminthosporium turcicum
8) Phototropic responses of a Penicillium species
9) Effect of heavy metals on Vinca minor pollen
10) The role of plant growth regulatory hormones on the growth of young Phaseolus aureus
11) A comparative study of the microbial populations of selected Oahu beaches and the Ala Wai canal
12) Protein inhibitors of Tobacco Mosaic Virus on tobacco plants

D. Summarize findings, draw conclusions and select an appropriate product form for presentation.

PRESENTATION OF PRODUCTS:

1) School Science Fair

Projects are presented clearly, concisely and attractively for viewing. Projects are judged by Hawaiian Science and Engineering panel of school judges.

2) State Science Fair

Winners participate in this competition.

3) Student Seminars

All participants give oral presentations to peers.

EVALUATION:

1) All projects are evaluated by teacher. The research paper, display and seminar are evaluated for clarity, scientific methodology, accuracy, writing skills and content.

MODEL: SCIENCE INQUIRY METHOD

TITLE: Use of the Inquiry Method

FOCUS:
- The content should focus on and be organized to include more elaborate, complex and in-depth study of major ideas, problems, and themes that integrate knowledge with and across systems of thought.
- There should be development and application of productive thinking skills to enable students to reconceptualize existing knowledge and/or generate new knowledge.

GRADE: k-6

LENGTH OF TIME: any time

NAME OF TEACHER: Kathy Chock
SCHOOL: Lunalilo Elementary

PROBLEM SOLVING BEHAVIORS

1. Identify the problem; establish a set by:
    - a. Recognizing problem exists--identifying some of the boundaries of problem.
    - b. Defining problem and parts.
2. Generate possible solutions by:
    - a. Organizing the data--making it easier to see relationships.
    - b. Asking questions which may lead to modification of possible solutions.
    - c. Identifying variables and controls--variables may influence outcome of investigation--as necessary in order to understand the concept of controlled experiments, to make any sort of appraisal of their designs, and to make an intelligent interpretation of possible results.
    - d. Explaining and answering questions.
3. Formulate a hypothesis.
4. Test the hypothesis and collect data.
5. Review the data and draw conclusions.
6. Receive feedback on the success or failure of the conclusion:
    - a. Accepting critical and/or positive feedback.
    - b. Acting on suggestions in an appropriate manner which may necessitate going back to the previous stages, or may result in solving the problem.

Science Curriculum Guide Grade 7-9
OIS, Dept. of Education, Hawaii

Use of the Inquiry Method in Lunalilo School's Enrichment Program

Level: K-6

Time: Any length of time allotted

Learners: Any child

Focus of differentiation:

1. Open-endedness
2. Content beyond prescribed curriculum
3. Creating or generating something new
4. Student selected content
5. Develop independent and self-directed study skills
6. Develop research methods and skills

Approach: Inquiry Method

Content: Whatever is available, of interest, or fits the skills needed for reinforcement

Processes: Steps in the Scientific Method

Products:
1. Students will write-up individual experiments
2. Students will have own project display, research, and analysis for school Open House (See write-up of program)

Evaluation: See expectations in project write-up

The School Program

Grades K-3 (Supplementing 2 times a week)

Ten to twelve students in each grade level work on developing inquiry and creativity skills.

Grades 4-6 (Supplanting 2 hours per week)

Fifteen to seventeen in non-graded classes are scheduled during their regular language arts class. The program integrates basic reading and language skills, research skills, problem-solving and creativity development.

For the purpose of this paper, only the inquiry or scientific method will be discussed.

Guidelines for the Teacher:

1. Provide experiences which enable the student to learn while interacting with regular students, to learn while interacting with "gifted" students, and to learn independently.
2. Provide an appropriate learning environment that is conducive to problem-solving.
3. Provide learning experiences that set minimums, set standards, and are open-ended.
4. Provide opportunities for students to create their products as a result of assimilation of new knowledge and integration of their own ideas.
5. Arrange for resource people to interact with students.
6. Plan field trips to gather data in new environments.
7. Be aware of new materials, happenings, and programs being developed that may be included in the program.
8. Provide opportunities for articulation within the school environment, within feeder schools in the complex and among other programs in the State.
9. Provide opportunities to share classwork with parents and the school.

Objectives for Using the Inquiry Method

The student will be able to:

1. Identify and state problems to be solved.
2. State at least one inference when given enough data.
3. Hypothesize about possible solutions when given a problem.
4. State procedures for data gathering.
5. Record observations by drawing, writing, or charting.
6. Draw conclusions, summarize, or infer ideas from data given.
7. Measure length, volume, mass and time using the metric system.
8. Gr. 3-6: Conduct and write-up an original research project following the steps of the scientific method. Share it during Open House with appropriate display and backboard.

Evaluation of student progress will be measured according to the degree that objectives are met.

Sample Activity:

I. PROBLEM: Which glider design will go the farthest?

- a. Decide on designs to use.
- b. Have students demonstrate folding.
- c. Have each student, or pair of students, make a set.

II. HYPOTHESIS:

- a. Have each student theorize which design they think would go farthest.
- b. Can they predict differences among the designs?
- c. Which design would glide more? have greater life? have greater resistance?

III. MATERIALS:

- a. Have the students listed what they need.

IV. PROCEDURE:

- a. How are we going to measure how far the gliders go?
- b. How many times shall we fly each glider? Does throwing fewer or greater number of times provide more accuracy?
- c. How can we make sure that the way we throw is not a factor in our experiment?
- d. Have students write down concisely what they will do in sequential order.

V. OBSERVATIONS:

- a. Construct chart with class. You might end up with the following:

(CHART SHOWING DISTANCE GLIDERS TRAVELED (IN METERS)

	TRIALS											
DESIGN	1	2	3	4	5	6	7	8	9	10	Total	Average
A												
B												
C												

DISTANCE IN METERS

- b. You may also use a bar graph to show the average distance each glider traveled.

VI. RESULTS AND CONCLUSIONS:

a. Can you determine which design went the farthest?
b. Was your hypothesis correct?
c. What was the range?
d. What do you think accounted for the results?
e. Did the amount of wind make a difference?
f. Were you able to eliminate wind, differences in throwing, measurement difficulties, etc. as factors which influenced your results?
g. What problems did you encounter?
h. How would you improve this experiment if you were to do it again?

MODEL: **HILDA TABA'S TEACHING STRATEGIES**

TITLE: Cities Don't Just Happen!

FOCUS:
- There should be development and application of productive thinking skills to enable students to reconceptualize existing knowledge and/or generate new knowledge.
- There should be exploration of constantly changing knowledge and information and development of the attitude that this knowledge is worth pursuing.

GRADE: 4-6

LENGTH OF TIME: 2-3 months

NAME OF TEACHER: Sue Ruff
SCHOOL: Pearl Ridge Elementary

Taba's teaching strategies

An Adapted Model

1. DEVELOPMENT OF CONCEPTS

   Organize, label, and categorize information.

2. INTERPRETATION OF DATA

   Gather, organize, infer, generalize, and evaluate data.

3. APPLICATIONS OF GENERALIZATIONS

   Apply, predict, and judge information.

4. RESOLUTION OF DIFFERENCES

   Interpret different attitudes and feelings.

REFERENCE: Taba Hilda, *Teaching Strategies and Cognitive Functioning in Elementary School Children.* San Francisco State College, Coop Research Project, No. 2404. San Francisco: 1966

TEACHING STRATEGIES FOR BUILDING A FUTURE CITY

TITLE: CITIES DON'T JUST HAPPEN!

LEARNERS: Grades 4-6. This activity can also be used for Secondary. It can easily be given to the entire class because it incorporates Renzulli's methods of 1. Starting with the whole class to generate information, 2. Individually do research for in-depth study, 3. Share together the information that was discovered with products. This leads to class generalizations and evaluations.

APPROACH: Hilda Taba's Inquiry Teaching Strategies for Social Studies

DEVELOPING CONCEPTS

CENTRAL QUESTION FOR INQUIRY: What criteria does it take for the development of a city in today's world?

MAJOR CONCEPT DEVELOPED: Civilization

GENERALIZATION: Cities of the past, present, and future have basically the same criteria needed for the development and survival of them. The differences primarily depend on the human and natural resources.

I. Concept Development

- organize, label and categorize information

A. Students will brainstorm the world "city," categorize and classify information into topics such as transportation, communication, architecture, etc.

II. Interpretation of Data

- gather, organize, infer, generalize, and evaluate data.

A. Students will select their own city and do research.

B. Students will compile report by making a booklet of a city of their choice with basic theme, "Why did it become a city?"

C. Students will share results of research work through booklet and other products. The sharing of each city will encourage a variety of generalizations and seeks clarification where necessary. "Why did it become a city?" "If it is still a city, what was allowed to remain so?" "For ancient civilizations, why did some of them die?"

This allows for the making of cause/effect relationships and gives support or evidence.

D. Evaluation

1. Each student will write a subjective evaluation about the new experience he/she had, new knowledge acquired and how they solved the problems encountered. They also discuss their feelings about the other student's reports. This is done in their journal.
2. Teacher Evaluation--150 points
    a. Organization of Research -- 10 points
    b. Information
        1) How reliable -- 15 points
        2) Amount of new information -- 25 points
        3) Neatness -- 10 points
        4) Writing research
            1. Mechanics -- 10 points
            2. Translation, interpretation, products -- 30 points
        5) Project Evaluation -- 50 points
            1. Meeting the deadline -- 15 points
            2. Project write-up -- 5 points
            3. Sharing with the class -- 30 points

III. Application of Generalizations

- apply previously learned generalizations and facts to explain unfamiliar phenomena or to infer consequences from known conditions.
- encourages students to support their speculations with evidence and sound reasoning.

A. Teacher gives each student a map of an island. They receive data about the island in reference to lakes, rivers, size, landforms, vegetation and climate.

B. Teacher asks, "Give the information you have on these maps concerning the geography, and using the criteria developed from our city activity, where would you locate the biggest city on this island?"

D. Decide where your group feels the largest city should be established.

E. Discuss the following questions:
   1. What will be their industry?
   2. Where will the most people live? The least number live?
   3. What kinds of produce will they have?
   4. What kinds of animals will they raise?
   5. What kinds of occupations will the people select?

CULMINATING ACTIVITY
CONTENT--PROCESS--PRODUCT
CREATE A CITY OF THE FUTURE

I. Research Skills

A. Using index, skimming, cross-referencing, note-taking and proofreading.

B. Using the many books, filmstrips, magazines, and other resources.

II. Final Draft

With final copy of report, student can make a poster or other type of products to display topic.

III. Build the City

This is the most meaningful part of the entire unit. Many gifted students prefer to do their own individual projects; however, when the class works together on one project, the students experience what Hilda Taba calls "Resolutions of Conflicts" in attitudes, feelings, knowledge, etc. Students will need to interact and decide where the city is to be built, what type, what name, how far into the future, and many other things. The resolutions of the conflicts that will arise while trying to build the city will cover all phases of the Affective Domain as the students will be predicting, researching, judging, compromising and noting effects of the entire unit.

IV. Products

A. Posters showing each criteria of a future city:

1. Monetary System
2. City Planning
3. Government
4. Architecture
5. Transportation
6. Sports
7. Dress
8. Symbols
9. Defense
10. Education

B. The model of the actual city

1. Space
2. Underwater
3. Floating
4. Land-based

V. Evaluation

A. Teacher Evaluation

1. Use the point system described previously for the reports.

B. The Student's Evaluation

1. Each student wrote subjective evaluation in their journals.
2. Each student kept an account of their progress in their journals.
3. Each student reacted to the teacher's approach to the research assignment.

C. The Parent's Evaluation

1. Parents were asked to evaluate the products (booklets, charts, posters, models, drawings) by commenting in an evaluation form sent home by the teacher. The form covered how the parent thought the student's skills, interest, abilities to higher level thinking skills, general and basic social sciences and language arts skills were in comparison to the beginning of the unit.

Local Contacts for Information (They have much to share, and will come to your classroom, along with many books for you). They will also come to your class as a resource speaker.

Jim Dator, Futurist, U. of H.

Ward Marflin, Futurist, West Oahu College, Leeward C.C.

John Craven, Creator of Cities in the Sea, Designer of the original "Nautilus" for the U.S. Navy, Ecologist and Dean of the Marien Studies Dept., U. of H.

George Chaplin, Futurist and Editor of the Honolulu Advertiser.

Lt. Col. Harold Nakashima for NASA. Phone 836-3417 and ask for materials from Jule Zumwalt for NASA Aerospace Education.

Fritz Osell, Oceanographer and Astronomer, Leeward Community College

T.V. Shows and Filmstrips or Films

"Thinkabout" on Channel 11 Lesson "Program 60" Plan a City For the Future -- you may get the videotape at the Central District Center right here at Red Hill

"Brave New World"--Movie for T.V. or you can get the video by writing the World Future Society (Address given)

"Future Cities and Future Actions"--To be ordered by the DOE catalogue.

"Thinkabout" Challenge Program #15 "Make a present for the Future." Instructions above.

"Thinkabout" Lesson #55 "Make Something New". This is about being creative and gets them ready for the city.

"The Search For Solutions." Filmed by PBS by Phillips Petroleum.

"Cosmos" by Carl Sagan, Book and filmed by PBS

"Nova"--filmed by PBS. Write to any of them and ask for something concerning future cities.

"Cities In Space"--Filmstrip with sound. G/T Catalogue.

High Interest Reading Centers

"The World of the Future"--From Educational Insights. Available at H.P. Ross $12.95--An unusually fascinating kit to hold your student's reading interest. Each of the 100 cards with Sci-Fi illustrations presents likely conditions of life in the 21st century and really great for being in categories.

"Mind Expanders" from Educational Insights, available at H.P. Ross $7.95. A broad spectrum of inventive things.

"Future Think" activity book from H.P. Ross involves children in planning of their future and understanding that it doesn't just happen--$5.95.

Magazines

Analog Magazine (Practically all issues, but March 1980, Oct. 1976, July 1978, Sept. 1976, Oct. 1977 are about future cities and space stations)

DiFates Catalog of Science Hardware, Workman Pub. N.Y. 1980 has terrific illustrations, plans and detailed drawings for future cities.

Omni, almost any issue. Dr. John Craven's City in the Sea entitled "MACROENGINEERING," March 1981. Also good article in March 1979.

Future Life Magazine, March 1979 has antigravity machines and Space Stations.

STARSHIP MAGAZINE, Fall 1979-Fall 1982, Shuttlecrafts, Space Colonies, Refueling stations.

Popular Mechanics, almost any issue, check library for future cities.

Gifted/Creative/Talented Magazine, "The City of the Future" by Christine Lewis (You should have copies of this).

FUTURE, a magazine which seems to interest boys and girls alike.

SCIENCE DIGEST, a little advanced, but included the article by Dr. John Craven on "Sea Cities" in Dec. 1971.

MODELS: **TREFFINGER'S MODEL FOR SELF-DIRECTED LEARNING**

(See also George Land's model for shaping the future and Bob Sample's model for holistic learning)

TITLE: METAMORPHOSIS OF A STRATEGIC VISION

FOCUS:
- The content should focus on and be organized to include more elaborate, complex, and in-depth study of major ideas, problems, and themes that integrate knowledge with and across systems of thought.
- There should be development and application of productive thinking skills to enable students to reconceptualize existing knowledge and/or generate new knowledge.
- There should be promotion of self-initiated and self-directed learning and growth.
- There should be development of self-understanding and the understanding of one's relation to persons, societal institutions, nature and culture.
- Evaluations should be in accordance with prior stated principles, stressing higher-level thinking skills, creativity, and excellence in performance and products.

GRADE: 8

LENGTH OF TIME: One year

NAME OF TEACHERS: Aileen Moriwake
Barbara Yamamoto

SCHOOL: Aiea Intermediate

SELF-DIRECTED LEARNING

Student Self-Directed Level III

- The student makes choices of goals and objectives.
- The student assesses what is needed.
- The student specifies the project and activities.
- The student uses a self-evaluation measure.
- The teacher provides resources and materials.

Student Self-Directed Level II

- The student and teacher work on options.
- The student and teacher diagnose through tests and conferences.
- The student uses a contract which includes the scope, sequence and other decisions.
- Other students and teacher provide feedback and evaluation.

Student Self-Directed Level I

- The student chooses one of the options provided by the teacher.
- The student's needs are diagnosed by the teacher.
- The student works at pace as agreed by the teacher.

Teacher Directed

- The student's work is prescribed by the teacher.
- The student takes tests for the teacher's prescribed lessons.
- The student follows the activities and lessons as provided and supervised by the teacher.
- The teacher evaluates students and gives them grades for their performance.

Based on "Teaching for Self-Directed Learning: A Priority for the Gifted and Talented" by D. J. Treffinger, The Gifted Child Quarterly 1975, 19, pp. 46-49.

A Gifted/Talented Learner's Vision

- A Parable -

This is a fictitious, biographical sketch of Orwell San, a graduate of G-ive and T-ake School.

Ever since he was little, Orwell was fascinated by the radio that his parents bought for him one Christmas. In those days, there was no television, so the radio became Orwell's primary source of entertainment. One flick of the dial could bring him the latest episode of "The Lone Ranger" or the zany antics of "Amos & Andy." By listening to talk shows, he was thrilled to hear the voices of his silent-screen idols, Charlie Chaplin and Rudolph Valentino, whom he loved to imitate. Orwell also discovered that there were channels that offered the latest local, national and international news. The lad's knowledge of his environment increased by leaps and bounds as he tuned in to his radio everyday.

Like any young boy, Orwell went through the stage where school was unexciting. There were the 3 R's to learn which he supposed was necessary. But for Orwell, school became wonderfully tolerable when he came to the realization that it was very much like his beloved radio. The teachers were the different stations on the dial. Some sent out weak signals; others, strong; and still others, static. But, ultimately, Orwell could adjust the volume or frequency of those signals to his liking. With school seen in this perspective, it wasn't any wonder that Orwell would doodle radios, or hum tunes which he heard on the radio, or do impersonations of famous personalities or even write short skits.

It didn't take long before his teachers noticed his interests and abilities. They suggested courses that he could take to capitalize on his assets. For example, in his electronics class, he was able to meticulously take apart a radio and put it back together again. In his drama class, he was able to develop his resonant voice and his gift of "ham." He learned the finer details of script writing in his English writing lab classes; and his humanities classes fostered a world conscience.

But, Orwell was still not satisfied. He believed that he was destined to be a mover and a shaker. "There must be some way in which I can take all I am and transform that to some cause," he pondered.

Orwell found that cause during the last few minutes of awakening one morning. Jumping out of bed, he sat down at his desk and composed a story which he felt very assured would one day be widely broadcast. His story would be as fancifully entertaining as it would be earth-shaking. Day and night, for months, as though obsessed, he worked on his fantasy.

Upon completion, he approached a radio station manager who quickly saw Orwell's capabilities as a writer and a broadcaster and agreed to air the story.

On April 1st, Orwell San's life-long dream came true. He made his radio debut with his dramatic reading of his story, "The War of the Worlds." The rest is history.

GOALS

1. To nurture the potential of the gifted/talented child
2. To help learners approach the learning experience/world

OBJECTIVES

1. To develop a positive self-concept (FPO 2)
2. To develop decision-making and problem-solving skills (FPO 3)
3. To develop independence in learning (FPO 4)
4. To provide learners with a means of developing a continually growing philosophy such that the student is responsible to self as to others (FPO 7)
5. To provide assessment tools that teachers, together with the students, can use to channel the input into the curriculum

PHASE I: (Teacher Directed) The Intrapersonal Learner Awareness Level

The focus of this phase is to facilitate the GT child in gaining self-knowledge; e.g. what are my interests and strengths, ideas, values, needs; preferred ways of approaching situations...

(Bob Samples' Holistic Learning also used for phases 1-4)

In order to accomplish this, teachers may use any number of informal and formal inventories, tests and materials that are all designed to enable the teacher and students to get self-knowledge feedback.

PHASE II: (Self-Directed - 1)

The focus of this phase is to help the students to notice, validate and/or reaffirm their self-knowledge as they go through any given subject area. As students work together, there should be opportunities for supportive and interactive feedback as the child begins to share his/her knowledge as well as how he develops his/her interests, strengths, ideas, values, needs, preferred ways of approaching situations, learning...

PHASE III (Self-Directed - 2)

In this phase, students begin to apply the data retrieved in Phases I and II to plan their own curriculum. As students explore their career roles: leadership, creative/critical thinker, teacher roles--the teacher can provide alternative ways to enable students to not only capitalize upon their strengths as they design their curriculum, but to become peer behavior models.

PHASE IV (Self Directed - 3)

(George Land's model used in phase 4)

Using the self-knowledge information from Phase I, II, and III, the GT students begin to explore their ideals and reality from a world citizenry perspective. The curriculum can be either teacher based, teacher-student based, student based, student-others based. The focus would be an interdisciplinary study which will explore morals/issues/conflict resolutions that are present in the world today and to begin to delve into problem finding in futuristics study.

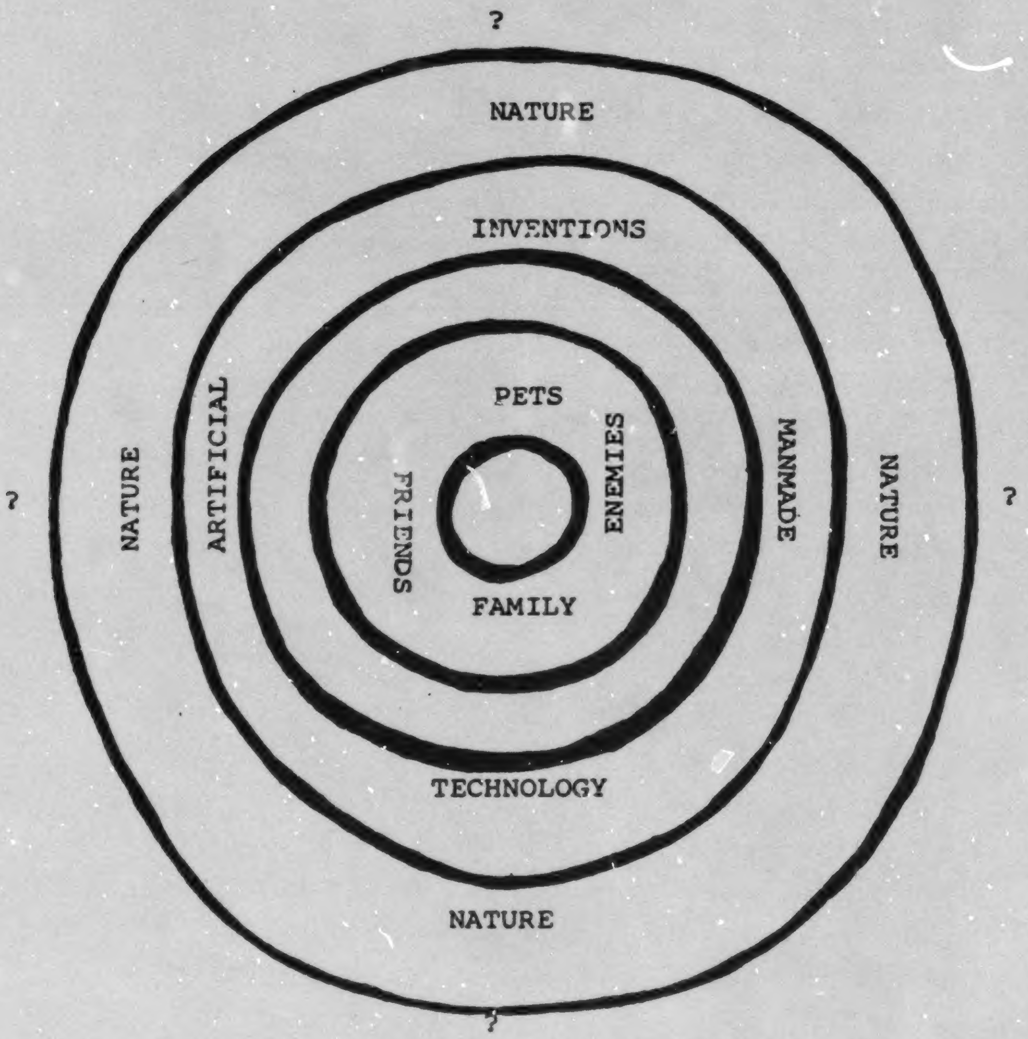
The following are samples of visions of Aiea Intermediate School's G/T students as they collaborated on their class vision as they experienced the aforementioned four phases.

Our Blueprint of Idea for Our Global World

1. We went outside and brought back what we thought was the environment. Each of us had our own view. Each view was of value, a correct interpretation of the environment.

2. We created our Environmental Map.

Our Environmental Map


?
NATURE
INVENTIONS
PETS
ENEMIES
MANMADE
NATURE
?
?
NATURE
ARTIFICIAL
FRIENDS
FAMILY
TECHNOLOGY
NATURE
?

An understanding of the world around us is still left with unknowns; therefore, humans should try to find new solutions to new problems.

3. We developed:

Our Flexible Plan

I.	Earth Evolvement, Growth	
II.	Life	
III.	Ways of Learning Problems Solutions	How? Leadership Problem Solving Creativity
IV.	2000 (?)	
V.	Unknown	

4. We arrived at a way to problem solve after experiencing, 1. how to underline skills, 2. the creating of an environmental map, 3. the comparing of the plight of the taro farmers with our environmental map.

Our Discovery of Problem Solving

1. Know purpose, problem, topic
2. Confusion, mess sometimes occurs
3. Define the problem or purpose
4. Guessing, consider many ways
5. Choose from many ways the best way
6. Synthesize (put together information of how to go about solving the problem
7. Evaluate

Note: At this date, September 21, we discovered the order may differ.

5. We went into our environment to find something that is totally useless. (We found none.)

6. We went to the Aiea Heiau with all of our tools we could use to record how the Hawaiians made use of the environment. We found out about the Hawaiian ahupua'a and ohana system of living. We liked the conservation, cooperation aspects of the Hawaiian way of life. They made maximum use of the environment.

7. We role played with different Hawaiian artifacts. Hypotheses were developed. Predictions on water were made and validated during the trip to the Watercress Farm.

8. We went into our environment to find some sort of power. We discovered that anything can be used as power, in some form or another.

9. We realized that our world has many unknowns (unrealized facts).

10. We discovered that our world has many problems.

11. We realized that these problems can be solved through ideas (thought).

12. We found we must record our goals, ideas, objectives, etc. Hence, "Our Blueprint of Ideas" was created. We all have different color prints of ideas.

13. All this time, we were gaining skills. After hearing about the State of Hawaii's Priority Directions, we developed our own.

Our Class Priority Directions

1. Need for planning--this goes with everything we do so we have a basis for our project.
2. Learn about ourselves, our environment
3. Master all the activities such as divergent thinking, classifying, leadership, creativity, etc.
4. To learn skills that will help us through our lives
5. To advance a bit farther into the solving of a few of earth's major problems, problem find
6. To continue to let our minds work with us...don't design walls
7. To look at our environment in a new perspective
8. Gain a larger vocabulary
9. To let each one of us unleash all our yet to be uncovered potentials
10. To learn how to make generalizations more often
11. To continually fulfill our priority directions

Since all the students are pinpointing concerns, investigating, creating solutions for the future, the priority directions serve as an educational, environmental direction, advancement.

14. We began to put these ideas into effect on our respective projects

15. Our class realized that our progress had been such that much of "Our Blueprint of Ideas" was obsolete. Although we agreed on looking at the world later, we realized from our energy, quality of life, transportation, psychology study, we needed a world view. Finite resources, inequity of rich and poor countries meant we needed to take a global perspective now. We felt we needed to look at the entire universe. One of the students concluded from her first project that there was a need to look at the issue of equality, global cooperation. Our involvement in our environment was more relevant to ourselves.

16. We revised, re-examined our priority directions.

Our Blueprint of Ideas With Earth As the Benefactor

--We have an understanding that our world is still left with unknowns. Therefore, the finding of workable solutions is our class goal.

--We know that experts are working on solutions. We want to gain a knowledge of what they are going through and how they problem find. Our mentors are helping us. In so doing, we are noting watershed reversals. We are also noticing side effects, emerging issues, and opportunity costs.

--We realize problems are occurring because of scarcity or misunderstanding. Therefore, we are investigating what could be the "max" quality of life. While learning about other views, we are at the same time developing our view of the world. Our views grow as we expand in our own experiences and gain more knowledge.

--We know that everything is connected therefore everything is dependent on each other. A "cooperative" spirit is a natural result of how we plan. Therefore, the obligation to ourselves is a "cooperative" one to the world, to the future.

GENERAL FOCUS

We want to look at a total design that is concerned with analyzing, evaluating or improving society's norms of behavior by establishing ways of dealing with groups of problems.

HOW TO LOOK AT WHAT WE HAVE

What we choose to look at and how we choose to look at things may not be the same choices others would make. We know that people's points of view will vary considerably according to their experiences, priorities, what they have been taught. We also know that sometimes, solutions are found for the unintended questions. Our study of discoverers and inventors reveal that the methods used are often unintended routes. Although some of our methods may seem unique, still remember we are all working toward a common goal, getting the "max" quality of life. Perhaps, your stepping into our "shoe of ideas" may help you to further your own perspective. We feel there needs to be an integrated view, a cooperative effort.

AREAS OF STUDY

We are still in our initial stages of blueprinting. As adults, we will be able to further our ideas. During May 17, 18, 1980, the Aiea Complex Potentially Gifted/Talented classes will be sponsoring their second fair at Pearl Ridge Shopping Center. The first fair related to energy. Part of the second fair will be on careers. After learning about the different areas on the next page, we should be able to notice emerging careers. The following page not only shows some of the areas we are learning about but it also reveals our broad concept of what needs to happen or could happen for the benefit of our earth, ourselves, and

FUTURE GENERATIONS.

As a starting imprint of our ideas, we created generalizations we are now working from.

--There is a need for international "cooperation" based upon the inescapable interdependency of the nations of the world for finite resources. Therefore, there must be a global perspective and an interactive understanding of what is happening.

--The concept of leisure as a purposeful way of self-fulfillment lets us look at education, work, retirement from a new perspective, "funewrator, workreation." Biological technology, other technology, and relationships to nature also contribute to "workreation."

--Alternative futures can take place. History and what is happening contribute to the future. Aside from happenings beyond our control, humans can invent what will happen through the decisions they make.

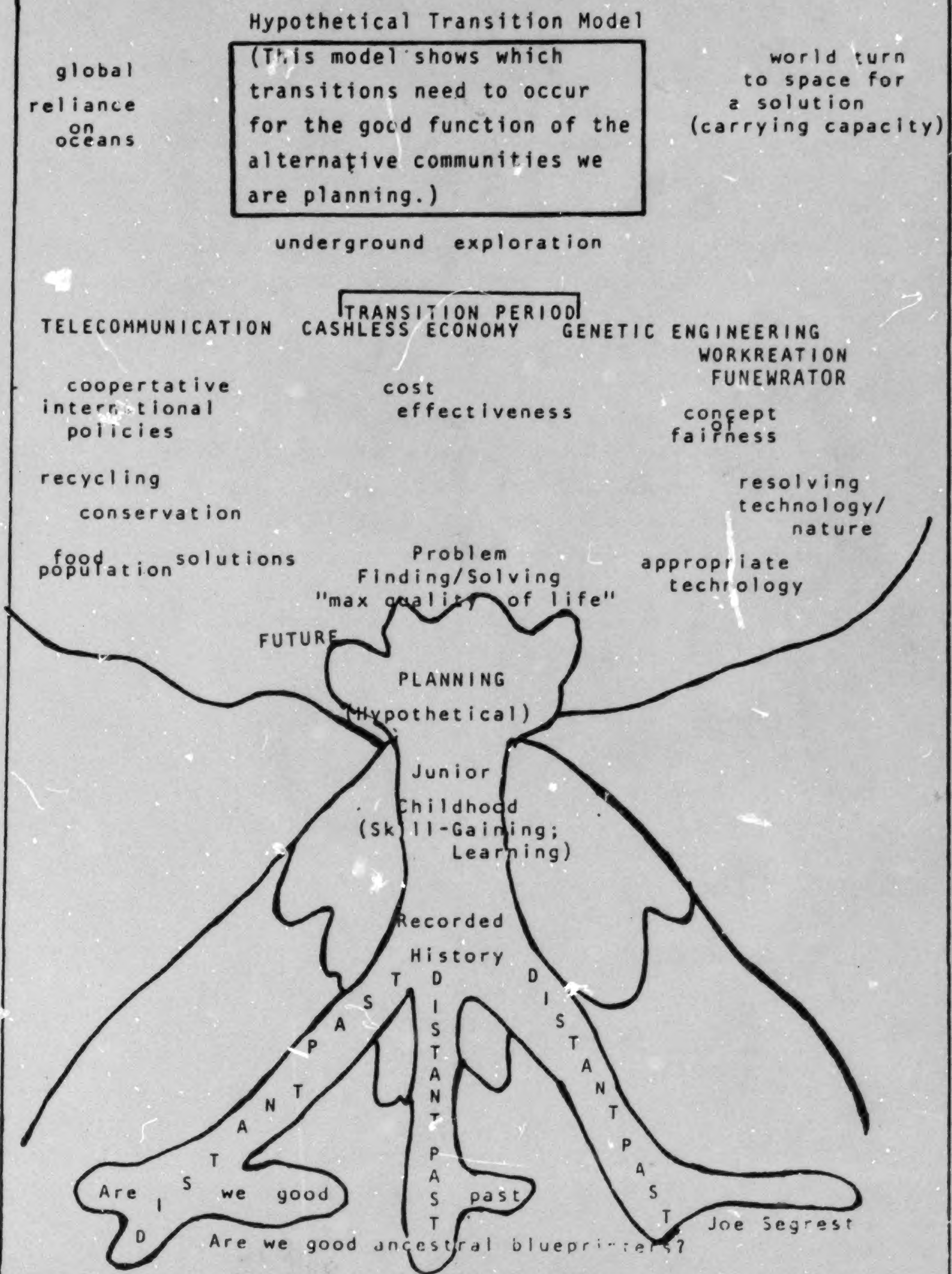
--Changes take time (Opposite is also true.) The little changes can become big changes, even watershed reversals.

--Transitions from the present are necessary to get to the final product, the reality of our blueprint of ideas.

--Part of the success of problem finding is determined by the time spent looking ahead (with foresight) and at the decisions made, design planning.

Hypothetical Transition Model

(This model shows which transitions need to occur for the good function of the alternative communities we are planning.)


global reliance on oceans
world turn to space for a solution (carrying capacity)
underground exploration
TRANSITION PERIOD
TELECOMMUNICATION
CASHLESS ECONOMY
GENETIC ENGINEERING
WORKREATION
FUNEWRATOR
coopertative international policies
cost effectiveness
concept of fairness
recycling
conservation
resolving technology/nature
food population solutions
Problem Finding/Solving
"max quality of life"
appropriate technology
FUTURE
PLANNING (Hypothetical)
Junior
Childhood (Skill-Gaining; Learning)
Recorded History
DISTANT PAST
DISTANT PAST
DISTANT PAST
Are we good past
Are we good ancestral blueprinters?

Joe Segrest

LONG RANGE TIME CAPSULE PLANNING

How will we know about the short-range results of our idea, problem, fact, solution, acceptance findings?

We hope to meet in seven years:

Last Saturday, June, 1987, high noon

Aiea Intermediate School courtyard
99-600 Kulawea Street
Aiea, HI 96701

Phone: (808) 488-8421

There is an overall time capsule blueprinter, blueprint leader, class reflector, and systems analyst.

We will meet twenty years thereafter:

Last Saturday, June, 2007, high noon
Aiea Intermediate School courtyard

Then there will be plans for a time capsule ceremony. All of the students from the Aiea Complex potentially gifted/talented program will be part of the time capsule plans.

Future generations may know of the long-range results.

-- "from the past, the future"
Paul Drennan

BIBLIOGRAPHY

1. Grow or Die by George Ainsworth-Land
2. Growing Up Gifted by Barbara Clark
3. The Metaphoric Mind by Bob Samples
4. Turning of the Mind by Aiea Complex
5. Whole School Book by Bob Samples

Develop independence and self-direction.

1. Learn to function in total learning environment.

    a. Teacher-directed

    The teacher will prescribe acceptable social and academic behavior appropriate for student's learning environment.

    b. Self-directed I

    The student will:

    1) develop an ability to participate in group discussions regarding self-responsibility and freedom.

    2) develop an ability to work independently or with others on task prescribed by the teacher.

    3) develop an increasing responsibility for use of time for task completion as designed by teacher.

    4) develop the ability to follow guidelines and rules established by school authorities.

    c. Self-directed II

    The student will:

    1) develop ability to actively participate in and lead group discussions and activities.

    2) selectively seek assistance from a variety of people and consider suggestions offered by others.

    3) develop ability to schedule time for daily work with peer or teacher interaction.

    4) participate in the establishment of guidelines and rules used in the learning environment.

    d. Self-directed III

    The student will:

    1) determine appropriate interaction with individuals and groups to accomodate self-designed goals.

    2) investigate and utilize a variety of school and community resources.

    3) complete contract to his/her satisfaction within own time schedule.

    4) use his/her freedom within the learning environment with consideration, responsibility, and respect.

C. June Maker, Honolulu, HI
Workshop, 1983.

MODEL: **WILLIAMS' CUBE**

TITLE: Possibilities for the Future

FOCUS:
- Content related to a broad based theme
- Open-ended
- Development of new ideas and products to challenge existing one (creative use of imagination)

GRADE: upper elementary

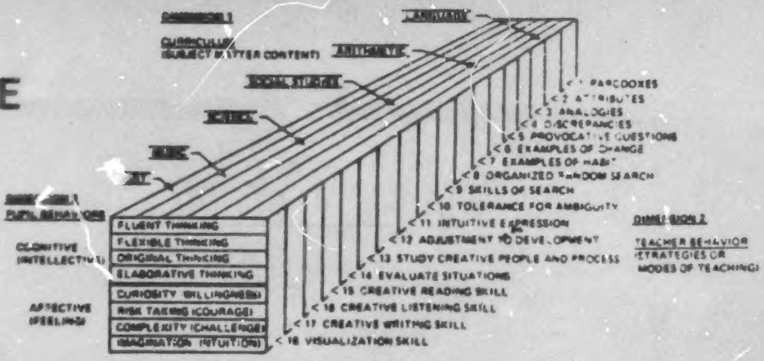
LENGTH OF TIME: 4-6 weeks

NAME OF TEACHER: Fred Trupiano
SCHOOL: Liholiho Elementary

WILLIAMS' CUBE

A Model for Implementing Cognitive-Affective
Behaviors in the Classroom

D1=D2-D3


DIMENSION 1
CURRICULUM (SUBJECT MATTER CONTENT)
DIMENSION 3
PUPIL BEHAVIORS
COGNITIVE (INTELLECTIVE)
FLUENT THINKING
FLEXIBLE THINKING
ORIGINAL THINKING
ELABORATIVE THINKING
AFFECTIVE (FEELING)
CURIOSITY (WILLINGNESS)
RISK TAKING (COURAGE)
COMPLEXITY (CHALLENGE)
IMAGINATION (INTUITION)
< 1 PARADOXES
< 2 ATTRIBUTES
< 3 ANALOGIES
< 4 DISCREPANCIES
< 5 PROVOCATIVE QUESTIONS
< 6 EXAMPLES OF CHANGE
< 7 EXAMPLES OF HABIT
< 8 ORGANIZED RANDOM SEARCH
< 9 SKILLS OF SEARCH
< 10 TOLERANCE FOR AMBIGUITY
< 11 INTUITIVE EXPRESSION
< 12 ADJUSTMENT TO DEVELOPMENT
< 13 STUDY CREATIVE PEOPLE AND PROCESS
< 14 EVALUATE SITUATIONS
< 15 CREATIVE READING SKILL
< 16 CREATIVE LISTENING SKILL
< 17 CREATIVE WRITING SKILL
< 18 VISUALIZATION SKILL
DIMENSION 2
TEACHER BEHAVIOR (STRATEGIES OR MODES OF TEACHING)

TEACHING STRATEGIES

NAME	MEANING
1. PARADOXES	Situation opposed to common sense; self-contradictory statement or observation
2. ANALOGIES	Situations of likeness; similarities between things
3. SENSING DEFICIENCIES	Gaps in knowledge; missing links in information
4. THINKING OF POSSIBLES	Guessing or forming hypotheses; thinking of probabilities
5. PROVOCATIVE QUESTIONS	Inquiry to bring forth meaning; incite knowledge exploration
6. ATTRIBUTE LISTING	Inherent properties; conventional symbols or identities
7. EXPLORING MYSTERY OF THINGS	Detective work on unfamiliar knowledge; examine unnatural phenomena
8. REINFORCING ORIGINALITY	Rewarding original thinking; strengthen unlikely but relevant responses
9. EXAMPLES OF CHANGE	Demonstrate the dynamics of things; provide opportunities for making alterations
10. ORGANIZED RANDOM SEARCH	Use a familiar structure to lead at random to another structure; case studies from which new courses of action are devised
11. EXAMPLES OF HABIT	Discuss the effects of habit-bound thinking; build a sensitivity against rigidity in ideas
12. SKILLS OF SEARCH	Consider ways something has been done before; trial and error on new ways; control experimental conditions
13. TOLERANCE FOR AMBIGUITY	Provide encounters which challenge thinking; pose open-ended situations
14. INTUITIVE EXPRESSION	Skill of expressing emotion; feeling about things through all of the senses
15. PROCESS OF INVENTION	Steps of problem-solving leading to invention; study the incubation process leading to insight
16. ADJUSTMENT TO DEVELOPMENT	Examine how failures, or accidents have paid off; learn how to learn from mistakes
17. STUDY CREATIVE PEOPLE	Analyze traits of eminently creative people; study the process which has led to creation
18. INTERACT WITH PAST KNOWLEDGE	Nurture ideas from previously stored knowledge; allow opportunities to toy with information already acquired.
19. EVALUATE SITUATIONS	Extrapolate from the results of ideas and actions; deciding upon solutions in terms of their consequences and implications
20. RECEPTIVE TO SURPRISE	Capitalize upon unexpected ideas; alert to the significance of novel thoughts
21. CREATIVE READING SKILL	Learn the skill of idea generation by reading; develop a utilitarian mind-set for information
22. CREATIVE LISTENING SKILL	Learn the skill of idea generation by listening; listen for information which allows one thing to lead to another
23. VISUALIZATION SKILL	Express ideas in three-dimensional forms; practice describing views from unaccustomed vantage points

REFERENCE: William, Frank E. *Classroom Ideas for Encouraging Thinking and Feeling.* Buffalo, New York: 1970. By permission of DOK Publishers, Inc., Buffalo New York 14274

TITLE:

POSSIBILITIES FOR THE FUTURE

LEVEL:

Upper Elem.

TIME:

Four to six weeks

LEARNERS:

Above average, gifted and talented

FOCUS OF DIFFERENTIATION:

1) Content related to a broad based theme
2) Open-endedness of task
3) Development of new ideas and products to challenge existing ones (creative use of imagination)

APPROACH (MODEL/STRATEGY):

1) Student behaviors (geared to the Williams' model for eliciting divergent thinking and feeling)
2) Teacher behaviors (geared to the Williams' model for creating an atmosphere conducive to eliciting divergent thinking and feeling)

CONTENT (GENERALIZATIONS - CONCEPTS):

1) Student-generated views of possible futures
2) Summary: In groups of 4 to 8, students will develop a 15 to 30 minute presentation (for an audience) on their ideas regarding a future time period. Each group will select one broad category or theme within which to create their imagined view. Possible broad categories may include communication, transportation, sports, recreation, shelter, food, education, health, labor, the arts, or any new, presently non-existent category
3) Rationale: The selection of *the future* as a possible content area through which more divergent thinking may be promoted was made in relation to the total openness as to what may be later possible outcomes in a dynamic, ever-changing world. No accurate knowledge exists presently about any future, yet via the imagination, it is possible to plausibly anticipate, conjure, and extrapolate in that direction. Too often, classroom environments are such that only the more structured, empirically-sound approaches to thinking are encouraged and respected. Hopefully, by providing the students with an atmosphere geared toward a more divergent approach to thinking, new avenues of attack in problem solving will arise.

4) Objectives: a) making the students feel more comfortable and productive when approaching problems divergently; b) encouraging imaginative thought; c) fostering the willingness to risk and play around with one's ideas and hunches; and d) (since each presentation should contain an introduction, a body made up of generalizations supported by necessary details, and a conclusion) developing composition-writing skills.

PROCESSES (LESSON/UNIT):

See attachment

PRODUCTS:

Group presentations. Each group of 4 to 8 students developing a 15 to 30 minute program, for presentation before an audience, that is both informative and entertaining. Each presentation should include any invented devices, charts, talks, plays, skits, newscasts, etc. that will further enhance their ideas.

EVALUATION:

1) Class critiquing: a) question and answer period following each presentation; and b) a more detailed evaluation by classmates.

2) Teacher evaluation: based on the quality and quantity of divergent thinking generated, clarity and completeness of presentation, overall effect on audience, amount of general and specific ideas generated.

POSSIBILITIES FOR THE FUTURE
(lesson plans)

I Preparation for unit (spend several periods prior to group work discussing the following):

- a. the present and how it is different from the past
- b. the kinds of predictions that might have been made in the past
- c. whether there was any way to know the fate of those predictions
- d. whether those who were wrong, were wrong to anticipate or whether, at the time, their views were as plausible as those that happened to occur
- e. what *is* today could be different
- f. when projecting into the future, its openness allows for a a multitude of possible combinations
- g. rightness or wrongness is not an important issue when imagining future possibilities
- h. the value of willingness to risk and stand up for ideas and hunches
- i. the value of the wrong as possible catalyst to other ideas
- j. the special ability humans possess called imagination.

II Introduction of project to the students (spend several periods explaining the following to the students, explaining what is expected and encouraging discussion from them):

- a. they will be ambassadors from the future, possessing the necessary expertise to inform an audience about their category.
- b. each group of 4 to 8 students must select a time period and a general category to cover topics such as: transportation, sports, health, labor, the arts, or any new category
- c. each group will be responsible for a 15 to 30 minute presentation, fully covering their area in a plausible, complete, convincing, yet entertaining way
- d. the presentation must have an introduction and a conclusion, as well as an informative, detailed body
- e. the unbelievable and strange are acceptable

f. a variety of techniques should be used: created devices, skits, plays, models, explanations, scenic-boxes, newscasts, demonstrations, etc.

g. importance of seeing things from several points of view. Example - electronic games should be seen as forms of entertainment, constructed devices, devices requiring power sources, devices in possible need of repair, learning devices, devices on the market, needing commercials, etc.

h. possibility of future-oriented commercials during the presentation

i. approach from a practical standpoint:

Factual response -

1) What will things be like?
2) Why will changes be necessary?
3) What types of problems will new ideas, approaches, and techniques create?
4) What effects will the new have on young people, old people, etc.? What will the implications of the new have on others?

Affective Response (How you feel about it)

1) How do you feel about what these things will be like?
2) How do you feel about the changes that will be necessary?
3) How do you feel about the type of problems that the new ideas, approaches, and techniques will create?

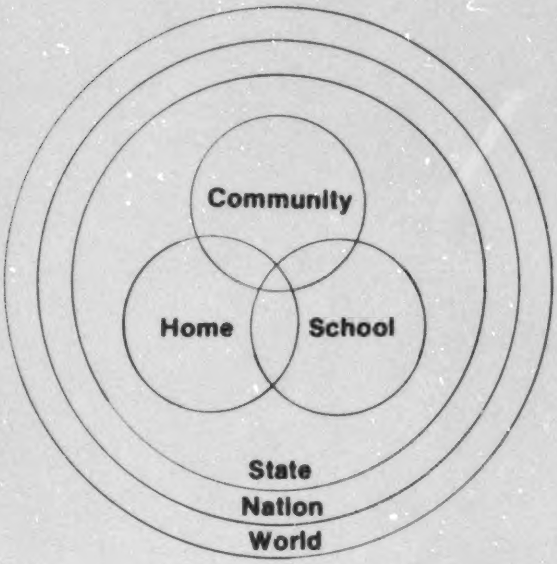
j. they will have between 4 and 5 weeks to prepare.

k. stress that question and answer period will follow each presentation.

l. stress that there will be no right or wrong in the usual sense of of the words since the future has not yet occurred.

III Presentation of program, followed by a question and answer period. Set two or three check-up times when teacher goes to each group for detailed accounts on progress.

Overview of Gifted and Talented Program


Community
Home
School
State
Nation
World

A Synergistic Approach

Pearl Ching, '83

1. Goals and Objectives
2. G/T Identification
3. Administrative Arrangements
4. Needs Assessment
5. Differentiated Curriculum
6. Instruction in the Disciplines
7. Unit and Lesson Planning
8. Implementation of Plans
9. Student Products and Performances
10. **Evaluation**

VIII. IMPLEMENTATION OF PLANS

To implement plans, students will need the guidance and assistance of teachers for planning their projects or research studies. The teacher's role is to be a resource person and also help to make available appropriate books, magazines, materials and equipment, arranging teaching and facilitating, strategies and providing a conducive environmental setting.

Teachers must have a repertoire of instructional strategies, insights into resources, and understanding of how to stimulate gifted and talented children and youth to engage in appropriate learning activities. They need to help children to define problems and focus, and to do "substantive learning" which includes significant subject matter skills, products and awareness that are of consequence or of importance to the learners and the disciplines. They also need to be aware of the wide range of exceptionalities and different capabilities and to be role models.

To help students in planning their time wisely, a contract system might be used. The following is an example:

PROJECT CONTRACT

Name________________________________ Date____________________

Topic:

Type of Research:

Hypothesis/Objective:

Tasks, strategies, steps and timeline:

Resources needed:

Product to be developed:

Audiences to share:

Criteria for evaluation:

Completion date:

Approved by________________________________

Gifted and talented students should not be barred from pursuing more advanced, complex, and sophisticated studies simply because they have not attained proficiency in all aspects of the basic or regular curriculum. Defining the introduction and pursuit of advanced learning processes under such circumstances can be punitive, and can inhibit the development of individual potential.

Curricula should be presented to the gifted and talented when readiness is indicated even if this requires deviation from the standard curriculum in a particular setting.[12] It is also important to remember the principles of learning by using motivation, practice, transfer of learning and feedback.

To facilitate readiness of students, provide students some examples if possible, and provide students some practice in making observations, note-taking, interviewing, forming questionnaires and using card catalogs, microfiche, graphs, charts, maps and other references, especially raw data. Include some simulations or role-playing.

To use some brain / mind research data, teachers could also use some of Barbara Clark's[13] suggestions from her Integrative Model such as the use of intuition, relaxation and effects of color, sound and light. A practical guide for developing imagination and creativity by Michael T. Bagley and Karen K. Hess could also be used.[14]

Students will need exposure to a variety of resources such as various dictionaries, encyclopedias, atlases, guides, indexes, etc. Some of these are listed on pages 242-247.

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[12] Curricula for Gifted, N/S-LTI-G/T 1982

[13] Growing Up Gifted, Clark, B. 1983

[14] 200 Ways of Using Imagery in the Classroom, Bagley & Hess, 1982

Compacting the Regular Curriculum

To prevent waste of valuable teaching-learning time and prevent student frustration or boredom from repetitious and unnecessary daily requirements, teachers can use a compacting strategy as suggested by Renzulli and Smith in A Guidebook for Developing Individualized Educational Programs for Gifted and Talented Students.

In essence, compacting entails 1) the determination that students have already mastered the content, and 2) substituting appropriately challenging activities.

There are two requirements for successful compacting: 1) Identify students from their records, discussions, observations; and 2) Understand the required or foundation curriculum (the goals, objectives, and basic skill competencies to be developed within each major content area).

SUGGESTED MATERIALS FOR INTEREST CENTERS

Reading Center

Charts of riddles, posters, book reports or other written invitations to read
Brightly colored books
Filmstrip: such as Cinderella, and the book, Cinderella
Books and objects related to it: such as a toy "Pooh Bear" and the book, The House at Pooh Corner
Poetry books
Peep-box showing a scene from a book which is displayed
Reading games--commercial or teacher made (pictures or paragraphs from stories to put in proper sequence; stories or poems which have been cut apart and need to be reassembled)
Word cards for making and transforming sentences
Books made by the class
Charts of stories with words missing and the word cards to put in the blanks
Junior Scrabble

Writing Center

Writing paper of different sizes and shapes
Sharp pencils, colored marking pens and crayons
Mounted pictures
Box of newspaper headlines
Poem starters to finish
Plot folders
Dictionaries
Post cards and stationery to stimulate letter writing
Box or bag of objects to write about
Book jackets
Alphabet models
Food cartons to stimulate writing ads and commercials
Surprise bag--child feels bag and writes how it feels and what he thinks it is

Arithmetic Center

Dishpan of rice--measuring cups, spoons, scales
Pan of water--cup, half-pint, quart, half-gallon, gallon measures
Ruler, yardstick, tape measure--paper, books, pencils, pieces of cloth to measure; instructions to measure paper to make greeting cards
Bead frame
Feltboard
Magnetic board
Commercial and/or teacher-made games
Worksheets in plastic envelopes
Magic squares
Books about history of numbers
Number lines
Sum stick
Add-a-scale
Cuisenaire rods
Counters of various kinds

Suggested Materials for Interest Centers (Cont.)

Science Center

- Collection of objects
- Things to classify
- Magnifying glass
- Magnets and articles to try
- Different kinds of soil
- Objects which float and objects which don't float
- Seeds to plant and to classify
- Shapes
- Compass
- Electrical equipment
- Simple machines
- Things to take apart and put together (old clocks, toys, etc.)

Objects to smell: Popcorn, gum, chocolate candy, orange, lemon, banana, vanilla, onion, vinegar, crayon, leather glove, cinnamon stick, perfume, paste, cloves, peanuts, hand lotion, soap, coffee, mothball, crystals, nutmeg, flowers

Objects to taste: Describe and classify as sweet, bitter, salty, sour--sugar, salt, lemon, cocoa, marshmallow, onion, pickle, turnip, cinnamon candy, coffee, vinegar, licorice, apples, pears, raw potatoes, flour, tea, strawberries, honey, pretzels, crackers, lime, peanut butter

Objects and pictures of objects which make sounds: Describe sounds and classify as pleasant and unpleasant, loud and soft (records of sounds)--Blloon, paper bag, bell, spoon, hammer, grater, light bulb, paper to rip, cellophane to crinkle, tuning fork, clock, tape, recording of various sounds, whistle, egg beater, glass of water and beater, sandpaper

Social Studies Center

- Books to find answers in
- Box of questions taken from Social Studies Guide
- Listening Post
- Charts of information or questions
- Scrapbooks
- Magazines to be cut up
- Box of word cards--children pick one, illustrate and write a story
- City, neighborhood, state, United States map
- Globe
- Filmstrips and viewer
- Class books
- Pictures
- Models of workers, stores, Indians, vehicles, TV sets, radios, telephones, etc.
- Materials to make a diorama, peep box, models, maps
- Ethnic kits

Games Center

- Teacher-made games
- Bingo
- Puzzles
- Link Letters
- See-and-Say Vowel Game
- Playskool Match-ups
- Quizmo
- Commercial games: Lotto, Chutes and Ladders, Dominoes, Picture Dominoes, Uncle Wiggily Game, Match (words and pictures)
- See-and-Say Consonant Game
- The 10 Game

LANGUAGE ARTS CENTER *

Purpose To provide children with the opportunity to increase their communicative skills, especially in the areas of spelling and reading, through the use of self-directed learning activities.

Materials and Equipment

Reading games--commercial and homemade--words cut out to form sentences
Spelling games--commercial and homemade
Filmstrips, tapes, and records related to reading and spelling--tape for spelling
Teacher-made reading and spelling activities mounted to tag board or file folders
Pocket charts with picture, letter and word cards
Reading skills kits
Individual flannel boards and chalkboards
Manipulative devices for developing visual discrimination
Puzzles
Crossword puzzles
Linguistic blocks
Printing press or other printing devices
Typewriter
Pictures for classifying
Dictionaries
Sheets of acetate and marking pencils

MATHEMATICS CORNER *

Purpose To provide opportunities for students to develop their quantitative thinking abilities by interacting with materials and questions related to mathematics. Emphasis should be placed on independent activities involving manipulation of materials and exploration of questions by students.

Materials and Equipment

Measuring devices--scales, thermometers, tape measure, rulers, spoons, quart, half-quart, gallon measures
Counters--blocks, beads, sticks, button, etc.
Books about mathematics--library, trade, and textbooks
Games--commercial, teacher-made, or student-made
Kits or instructional packages such as those from SRA, Singer, and EFC
Clocks and/or clock faces
Worksheets in plastic envelopes
Units--commercial, such as ESS
Bead frame
Number lines
Geo-boards
Cuisenaire rods
Math balance
Puzzles
Magic Squares
Playing cards
Job cards
Play money

Suggested Activities

1. Manipulate objects--count, classify, measure, play
2. Play mathematical games
3. Work puzzles
4. Complete job cards--using materials in the center
5. Play with bead frame, cuisenaire rods, play money, clocks, geo-boards, etc.
6. Complete worksheets
7. Read books about mathematics
8. Make up job cards and magic squares for use by other students
9. Invent mathematical games and puzzles
10. Work activities in a unit or kit--commercial or homemade.

DRAMA CENTER *

Purpose To provide an opportunity for children to express themselves through dramatic activity. Emphasis should be on the acting out of feeling, rather than on theater. Audience should be provided only at the request of the actors.

Materials and Equipment

The drama center should be equipped with a puppet theater, ready-made puppets, and materials for making puppets. Dress-up clothes and jewelry, as well as a box of various props, should be available. In some kindergarten and primary classrooms a playhouse is part of the drama center.

Suggested Activities

1. Role playing
2. Pantomime
3. Charades
4. Skits, plays
5. Dance drama
6. Movement to music and rhythm (in large, open area)
7. Puppet skits and plays

RESOURCES FOR GIFTED

GENERAL DICTIONARIES

1. Unabridged
2. Abridged
3. Foreign Language
4. On one subject
    - Adams, James Truslow, *Dictionary of American History*
    - Asimov, Isaac, *Words of Science and the History Behind Them*
    - Evans, Bergen, *A Dictionary of Contemporary American Usage*
    - *Grove's Dictionary of Music and Musicians*
    - Henderson, I.F., *A Dictionary of Scientific Terms*
    - James, Glenn, *Mathematics Dictionary*
    - Webster's *Geographical Dictionary*

BIOGRAPHICAL DICTIONARIES

1. *Webster's Biographical Dictionary*
2. *Dictionary of American Biography*
3. *Who's Who in America*
4. *Chamber's Biographical Dictionary*
5. *Current Biography*
6. *About Authors*

ENCYCLOPEDIAS

1. General
2. Subject

ALMANACS AND YEARBOOKS

1. *The World Alamanac and Book of Facts*
2. *Information Please Almanac*
3. *Statesman's Yearbook*
4. *Statistical Abstract of the United States*
5. *Encyclopedia Yearbook* (yearly supplement)

ATLASES AND GAZETTEERS

1. *Illustrated Atlas for Young America*
2. *Collier's World Atlas and Gazetteer*
3. *Encyclopaedia Britannica World Atlas*
4. *Goode's World Atlas*
5. *Hammond's Universal World Atlas*
6. *Rand McNally Cosmopolitan World Atlas*
7. *World Book Atlas*

HANDBOOKS

1. *Occupational Outlook Handbook*
2. *Glenn's Auto Repair Manual*
3. *Book About a Thousand Things* by George Simpson
4. *Political Handbook of the World*
5. Palmer, E. Laurence, *Fieldbook of Natural History*
6. Taintor, Sarah Augusta, *The Secretary's Handbook*
7. Sussman, Aaron, *The Amateur Photographer's Book*
8. Thrall, William, Flint, *A Handbook to Literature*

REFERENCE BOOKS

1. Handbooks
   Benet, William Rose (ed.), The Reader's Encyclopedia
   Hart, James D. (ed.), The Oxford Companion to American Literature
   Harvey, Sir Paul (ed.), The Oxford Companion to English Literature

2. Literary Quotations
   Bartlett, John (comp.), Familiar Quotations
   Stevenson, Burton (ed.), The Home Book of Quotations

3. Indexes
   Granger's Index to Poetry (with supplements)
   Ottemiller, Index to Plays in Collections
   Play Index, 1949-1952
   Play Index, 1953-1960
   Short Story Index (with supplements)
   Essay and General Literature Index

MAGAZINES AND PERIODICALS

GUIDES

1. Reader's Guide
2. Reader's Guide to Periodical Literature

INDEXES

1. Social Science and Humanities Index
2. Technology Index
3. National Geographic Index

Source: Santa, B.M. and Hardy, L.L., How to Use the Library, Pacific Books, Palo Alto, California, 1966.

INDEXES ON EDUCATION

1. Exceptional Child Educational Resources
2. Education Index
3. Resources in Education
4. Current Index to Journals in Education
5. NICSEM: AV Materials for Exceptional Children

Source: Hamilton Library, University of Hawaii

COMMUNITY LIBRARIES

OAHU

City & County of Honolulu

- Department of Parks & Recreation, Makiki District Park Library

State of Hawaii

- Hawaii State Public Library System
- University of Hawaii/Community Colleges
    - Hawaii Institute of Geophysics Library
    - Industrial Relations Center Library
    - Law School Library
    - Sinclair & Hamilton Libraries
- Archives
- Department of Health Film Library
- Department of Labor & Industrial Relations Technical Library
- Department of Labor & Industrial Relations Hawaii Public Employment Relations Board (HPERB) Library
- Legislative Reference Bureau Library
- Department of Planning & Economic Development Library

U.S. Government (Federal)

- Military Library System (on all Oahu military bases; call military information operator)

Private Sector

- Universities/Colleges
    - Antioch University Hawaii
    - Brigham Young University-Hawaii
    - Central Michigan University
    - Central Texas College
    - Chaminade University of Honolulu
    - Embry-Riddle Aeronautical University
    - Hawaii Loa College
    - Hawaii Pacific College
    - Roosevelt University
    - University of Southern California
    - University of Western Pacific
- Hawaii Chinese Historical Center Library
- Hawaii Medical Library, Inc.
- Hawaii State Teachers Association Library
- Hawaiian Historical Society Library

(Consult Oahu Telephone Directory for current phone numbers, addresses)

ADVANCED RESOURCES FOR GIFTED

(with assistance of librarian and teacher)

Types of Reference Books

Bibliographies
Encyclopedias
Dictionaries and Glossaries
Annuals
Handbooks
Directories and Registers
Indexes
Atlases
Yearbooks
Manuals
Dictionaries of Synonyms
Poetry
Reviews
Reader's Guides
Abstracts
Diaries
Catalogues
Books of Quotations, Proverbs, Maxims, and Familiar Phrases
Source Books
Periodicals
Histories and Chronicles of Particular Fields, Organizations
Record and Statistic Books
Concordance
Data Tables
Digests
Record Books
Surveys
Almanacs
Anthologies
How To Books

Types of Non-Book Reference Materials

Art Prints
Talking Books
Video Tapes
Microforms
Filmstrips
Realia
Transparencies
Graphs
Newspapers
Globes
Kits
Maps
Film Loops
Pictures
Records
Slides
Tape recordings
Magazines
Charts
Films
Study Print
Models
Filmstrips with sound
Flashcards
Television
Pamphlets

Mind Expanding Magazines

If you're after some reading that will be insightful, futuristic, creative, extraordinary or all of the above - here are a few magazines sure to pique your interest:

- Chart Your Course - Fun, clever, colorful, reflective. This magazine is jam-packed with stories, art, cartoons, poems, articles, games, interviews, photographs and more. It's produced by and for the gifted and talented.
- The Futurist - This magazine is published by the World Future Society. It offers forecasts, trends and ideas about all aspects of the future: life styles, values, technology, government, economics, the environment, etc.
- Games - On the lighter side, Games is for those who really like to strrrretch their minds. It offers games, puzzles, logic problems, reader contests and reviews of new board and video games, at varying degrees of difficulty.
- National Geographic World - This is produced for children (8 years and over). It's filled with articles about nature and wildlife, exploration and science, sports and hobbies, pets and children from all over the world. They also weave mazes, games and puzzles into each issue.
- Saturday Review - For those who truly appreciate the fine arts: books, theater, music, dance and film in a format of previews and reviews, articles and interviews.
- Natural History - Thought-provoking and informative and written for everyone. It contains articles about conservation, the "natural" world, and the human environment. Heavily illustrated with photographs and drawings, it presents problems facing our world. Natural History also reviews books and has a regular column for astronomy enthusiasts and naturalists.
- OMNI - Thirty percent science fiction and seventy percent science according to the editors. OMNI uses a broad spectrum of articles,

essays, graphics and illustrations to inform its readers about earth, life, space, UFOs, the mind, etc.

Chart Your Course -
P. O. Box 66707
Mobile, AL 36660

The Futurist -
World Future Society
4916 St. Elmo Avenue
Bethesda, MD 20814

Games -
P. O. Box 10146
Des Moines, IA 50340

National Geographic World -
P. O. Box 2330
Washington, D.C. 20013

Saturday Review -
P. O. Box 10010
Des Moines, IA 50340

Natural History -
P. O. Box 4200
Bergenfield, NJ 07621

OMNI -
OMNI International Ltd.
909 Third Avenue
New York, NY 10022

Organizations:

The World Council for the Gifted and Talented, Inc.
Box 218--Teachers College
Columbia University
New York, NY 10027 (212) 678-3866

NAGC, The National Association for Gifted Children
5100 N. Edgewood Drive
St. Paul, MN 55112 (612) 784-3475

CEC, The Council for Exceptional Children
1920 Association Drive
Reston, Virginia 22091 (703) 620-3660

The National State Leadership Training Institute on the Gifted and Talented
316 W. Second Street--Suite PH-C
Los Angeles, California 90012 (213) 489-7470

SUGGESTIONS FOR HELPING GIFTED STUDENTS IN REGULAR CLASSROOMS

1. Use learning styles inventories and give students opportunities to tell about their interests, activities and accomplishments.
2. Use pre-tests or mastery testing to enable students to "test out".
3. Utilize programmed instructional materials to "compact" the rate, pace, and content of instruction.
4. Include optional learning activities, such as interest centers and research projects that involve more advanced content and independent projects requiring originality and unique products.
5. Make information available to students concerning famous gifted and talented people.
6. Provide some time every day for students to engage in concentrated, uninterrupted work on individual or small group investigations.
7. Develop a classroom library of books, articles, films, pictures, etc. dealing with a wide variety of topics that extend beyond the usual curriculum areas.
8. Incorporate idea-generating techniques such as brainstorming, attribute testing, forced relationships, and creative problem solving into discussions on basic subject areas.
9. Invite resource persons in various careers and develop a volunteer, mentor, or community resource file for the class.
10. Work with several other teachers to plan for cross-age and peer-tutoring opportunities.
11. Develop a resourcebook of interesting places to visit, inexpensive things to do, and recommended publications to read.
12. Develop a variety of management forms and student record-keeping sheets to help students organize and guide their own projects.

TITLE ______________________

CRITERIA FOR SELECTION OF MATERIALS FOR GIFTED	Yes	No	N/A	Comments
1. Reinforces or supports the goals and objectives of the program.				
2. Has outstanding suggestions and guides for teachers.				
3. Contains possible ways in which gifted/talented can independently use the materials effectively.				
4. Offers opportunities for exploration; stimulates interest, thus motivates learner.				
5. Emphasizes interdisciplinary or multi-disciplinary approaches to learning.				
6. Fosters active interaction; learner with learner, learner with materials; teacher with learner.				
7. Is open-ended.				
8. Appeals to different learning styles.				
9. Provides access to multiple resources and personalized experiences.				
10. Provides bridges for gifted to become producers as well as consumers.				

HOW TO MOTIVATE THE GIFTED AND TALENTED

DO:

Encourage: trial and error, novel ideas, goals set by the child and setting long term goals

Help them to recognize their strengths and weaknesses

Give constructive criticism

Recognize achievement

Encourage independence

Give honest evaluations

Show enthusiasm and optimism

Set a good example

Furnish books of wide range and levels

Provide reference materials/laboratory equipment

Arrange their rooms to appeal to natural curiousity

Make use of resource people in the community

Plan field trips and library visits

Set aside time for reading

Base enrichment activities on child's interests and hobbies

Plan ways to apply what the child has learned

Encourage participation in outside activities

DON'T

Force yourself into a teacher role all the time

Force your child into the gifted role all the time

Encourage goals beyond your child's reach

Give wholesale praise, but reserve it for the praiseworthy

Force your child to be an "egghead" to others

Withhold direction and guidance in your efforts to encourage self-direction

Be afraid to admit your own ignorance about something or be afraid to find someone else who knows

Be afraid to make mistakes with your child

Brag about your child's giftedness, but defend gifted education

Express your dissatisfaction with the schools in front of your child lest it color his/her attitude toward school

What suggestions do you have?
What evidence do you have?
What's the worst thing that could happen?

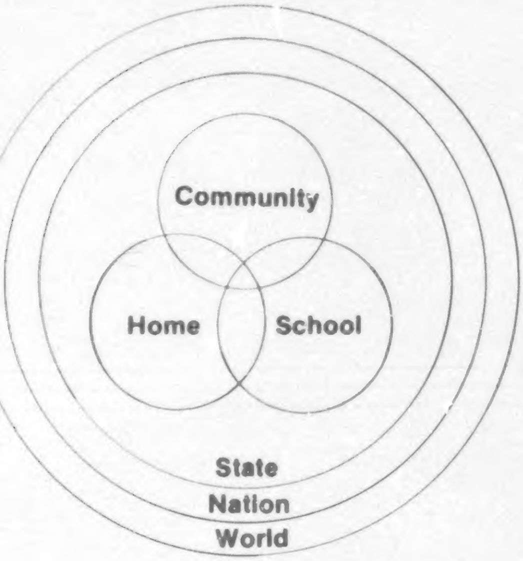
Some Tips from Jeanne Delp Regarding Gifted and Talented

- Teach the gifted and talented how to carry out their responsibilities in polite and socially acceptable ways.
- Make critical statements in uncritical ways.
- Let them figure out better actions to solve problems.
- Help them to understand that they have some special strengths and also needs, but they are not more valuable than anyone else.
- Help them to have long and short term goals and to be open to changing goals.
- Help them to plan their use of time (and sometimes suffering the consequences).
- Talk to the situation and not to the personality.
- Praise productively by describing the performance or the actions the student used.

Best	Learning Experiences	Worst
Desired; high personal involvement in problem	Involvement	Required; low personal involvement in task
Personal interest and concern; intrinsic motives	Curiosity and wanting to know	Attention demanded; extrinsic motives (reward/punishment)
Independent integration, combinations, sensitivity to problems and challenges	Diagnosis	Situation externally structured, presented, sequenced
Consider many different ideas, possibilities	Elaborating and diverging	Finding the correct or desired answer
Personal; standards set by the task and your needs and goals	Judging and evaluating	External; standards established and enforced by an arbitrary authority
Free to experiment, start over, to learn from your mistakes	Discarding useless, erroneous solutions	Evaluative judgments reflect on your adequacy, success; emphasis on being correct
Working with the solution to make it attractive or aesthetically pleasing	Choosing and refining solutions	Making certain the answer is "correct," complete, and in "proper form"
Using the solution or learning in real problems; sharing creative products	Communicating the results	Giving back the correct response, frequently in the form of answers to test questions
Solving one problem leads to the identification of new challenges	Culmination	The process ends with the correct answer or solution

Encouraging Creative Learning for the Gifted and Talented, Donald Treffinger, 1980, p. 7.

Overview of Gifted and Talented Program


Community
Home
School
State
Nation
World

A Synergistic Approach

Pearl Ching, '83

1. Goals and Objectives
2. G/T Identification
3. Administrative Arrangements
4. Needs Assessment
5. Differentiated Curriculum
6. Instruction in the Disciplines
7. Unit and Lesson Planning
8. **Implementation of Plans**
9. Student Products and Performances
10. Evaluation

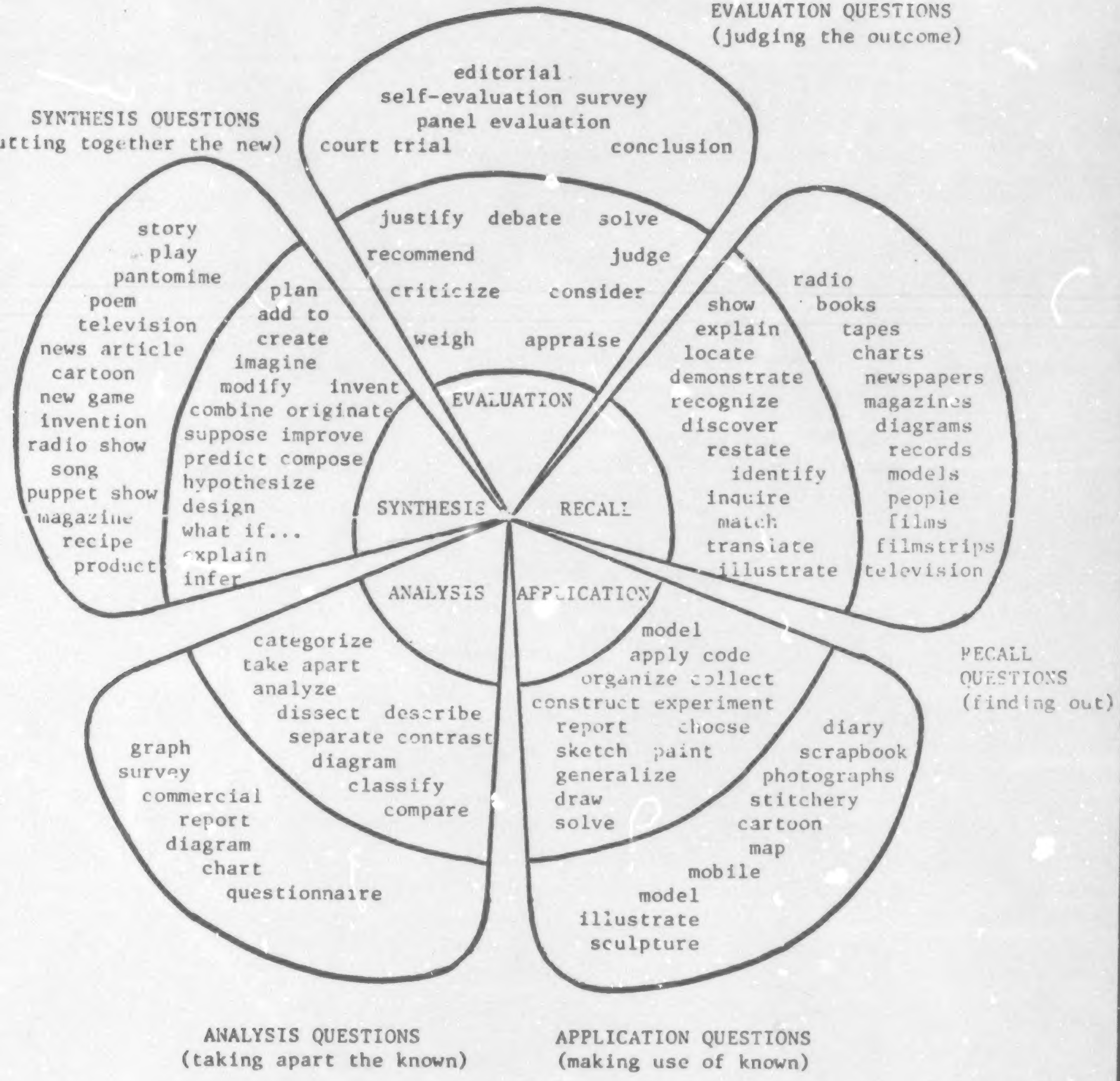
IX. STUDENT PRODUCTS AND PERFORMANCES

Student products and performances should be varied and creative. Teachers can help students in their development of products or performances by guiding their thinking and direction. Students also need to learn to use multi-media equipment for different presentations. Validations and evidences for their statements, observations, and conclusions are highly recommended.

Some key questions to pose for validation of the students' statements, opinions, conclusions and generalizations are:

1. What seem to be reasons why ______________?
2. What makes that so?
3. Why is that so?
4. What led you to that conclusion?
5. Why do you think that is true?
6. What would happen if ________________?
7. What might be the effects?
8. How did you arrive at that generalization?
9. Why do you predict ________________?
10. What evidences support that?
11. What will need to occur before ____________?
12. Why does that depend on ______________?
13. What other things will have to be considered?
14. What would lead you to conclude that ________________?
15. What do you think would happen if _____________?
16. How did you feel? How do you think ____________felt?
17. How could ______________ have handled the situation differently?
18. What do you think would be some consequences?
19. Why do you think that would happen?

CURRICULUM IN BLOOM


EVALUATION QUESTIONS
(judging the outcome)
editorial
self-evaluation survey
panel evaluation
court trial
conclusion
justify
debate
solve
recommend
judge
criticize
consider
weigh
appraise
SYNTHESIS QUESTIONS
utting together the new)
story
play
pantomime
poem
television
news article
cartoon
new game
invention
radio show
song
puppet show
magazine
recipe
product
plan
add to
create
imagine
modify
invent
combine
originate
suppose
improve
predict
compose
hypothesize
design
what if...
explain
infer
EVALUATION
SYNTHESIS
RECALL
ANALYSIS
APPLICATION
show
explain
locate
demonstrate
recognize
discover
restate
identify
inquire
match
translate
illustrate
radio
books
tapes
charts
newspapers
magazines
diagrams
records
models
people
films
filmstrips
television
RECALL
QUESTIONS
(finding out)
categorize
take apart
analyze
dissect
describe
separate
contrast
diagram
classify
compare
graph
survey
commercial
report
diagram
chart
questionnaire
model
apply
code
organize
collect
construct
experiment
report
choose
sketch
paint
generalize
draw
solve
diary
scrapbook
photographs
stitchery
cartoon
map
mobile
model
illustrate
sculpture
ANALYSIS QUESTIONS
(taking apart the known)
APPLICATION QUESTIONS
(making use of known)

Establish criteria for evaluation of products, e.g.,

CRITERIA FOR EVALUATION OF PRODUCTS

	1 Poor	2 Fair	3 Good	4 Excellent
Originality				
Elaboration or detail (breadth or depth)				
Application/synthesis of ideas				
Organization				
Validation/references used				
Presentation/delivery				
Appropriateness for intended audience				
Time on task				

Or C. June Maker also suggests that the criteria include:

1. Viewing from a different perspective: visual, philosophical, historical, logical and theoretical.
2. Reinterpreting ideas: adapt object to new uses, shift meanings and redefine problems.
3. Extending: developing new relationships or applying generalizations to new situations.
4. Combining simultaneously ideas, objects or images and develop conclusions, generalizations, or new categories.

Some questions to help students improve their products are:

1. Is the problem well defined?
2. What types of primary and secondary resources have been used?
3. What other forms could enhance the product?
4. What other audience could be considered?

SUGGESTED LISTS of PRODUCTS, ISSUES, PROBLEMS and THEMES

PRODUCTS

Written
- Reports
- Tests
- Poems
- Stories
- Journals
- Diaries
- Log
- Letter
- Editorial
- Chart (Informational)
- Newspaper
- Radio script
- List
- Booklet
- Field manual
- Guidebook
- Jingle
- Joke book

Verbal
- Tell story
- Speech (lecture)
- Panel discussion
- Forum
- Teach a lesson
- Slide/tape
- Role playing
- Song
- Skit
- Dialogue
- Demonstration
- Interview

Kinesthetic
- Model
- Diorama
- Sculpture
- Puzzle
- Game
- Construction
- Mobile
- Mosaic
- Dance
- Puppets
- Masks

Figural (Visual)
- Poster
- Chart
- Timeline
- Graphs (bar, line, pie)
- Displays
- Collage
- Map
- Flow chart
- Diagram
- Cartoons
- Mural
- Drawing
- Painting
- Banner
- Blueprint
- Advertisement

CONTENT

THEMES
- Change
- Cooperation
- Interdependence
- Differences
- Causality
- Communication
- Courage
- Death
- Fear
- Friendship
- Prejudice
- Survival
- Man's inhumanity to man

ISSUES
- Good Vs. Evil
- Helpful and Harmful Effects of Technology

PROBLEMS
- Life in the Future
- Conservation
- Human Relations
- National Security
- Decay of the Big Cities
- Inevitability of War
- Population Explosion
- Inflation
- Environmental Pollution
- Endangered Species

Want To Get Published?

Here are several publishers who publish student work. Many have specific rules to follow for submissions so call or write to the editor in advance to get all the facts. At the very least, you should keep a copy for yourself (they're not always returned). Include a self-addressed, stamped envelope with your work to aid a speedy reply. And be patient. Authors have been known to hear from publishers *months* after submitting work. Good luck and "may the force be with you!"

Chart Your Course, GCT Publishing Company, P.O. Box 66707, Mobile, AL 36660. For GTs of all ages. Accepts cartoons, reviews, puzzles, photos, poems, artwork, stories, you name it!

Current Consumer, Curriculum Innovations, Inc., 501 Lake Forest Avenue, Highwood, IL 60040. For junior and senior high students. Accepts articles pertaining to the student as consumer. Also accepts puzzles and short humor.

Encore, A Quarterly of Verse and Poetic Arts, 1121 Major Avenue N.W., Alburquerque, NM 87107. Accepts good poetry on any theme.

Read Magazine, 245 Long Hill Road, Middletown, CT 06457. For high school students. Accepts fiction and drama.

Wombat, A Journal of Young People's Writing and Art, 365 Ashton Drive, Athens, GA 30606. For ages 6-17. Submissions should include your name, age, school, home address, school photo and brief autobiography. Accepts biography, short stories, poetry (all kinds), drawings, puzzles, games, brain teasers, and humor.

Young World, The Saturday Evening Post Company, Youth Division, P.O. Box 567B, Indianapolis, IN 46206. For young people ages 10-14. Accepts nonfiction, photos, humor, profiles, fiction-adventure, science fiction, romance, historical fiction, poetry, puzzles, suspense, etc.

SUGGESTIONS FOR COMMUNICATING WITH PARENTS

A. Positive communications

Involve parents in the gifted and talented program from the beginning.

Send "happy grams," notes or call the parents when the students improve in academic behavior, or in attitude.

Have students send thank you notes to parents whenever they help the class.

Respond to parents' notes and calls immediately, preferably the same day.

B. Students' work

Have an activity folder for each student--write the date, activity (brainstorming, comparing) and their personal comments about the activity. These folders are shared with the parents at meetings and conferences.

C. Parent cooperation

Have parents attend and provide transportation for G/T field trips. Then they will know what is going on.

Have parents help when students are working on projects.

Have parents with special interests or jobs become mentors or resource persons.

When parents come in to help, show them there is a real need for them and that you appreciate their help.

D. Newsletter

Have students write a weekly or monthly letter to all the parents and teachers explaining what they did in G/T class. Explain one activity that they did and how it was done.

Have a student (per grade level) write to the parents on his grade level explaining one or all of the activities that they did that month or week.

The G/T newsletter should be different from the regular type of school newspaper. Perhaps have problem-solving projects that kids did and steps that they took to do them.

Have students write reactions and analysis of books and places they visit.

Show parents how they can help their child become a better student by using ideas from the parent brochures of "How Parents Can Help Their Child Become A Better Student," "Gifted and Talented Education in Public

Schools of Hawaii," and "College: An Investment in Your Child's Future."

Add an activity or two in the newsletter for them--"Which would you rather be--a horse or a cow?", "Why?", "Compare a witch and a goblin"

E. Parents night and conferences

Share work that students did at a Parents Night Meeting. Have parents participate in an easy thinking skill activity with the students and have them come up and share with the group.

Have a special mom, dad, parents or a grandparents day and plan activities for them.

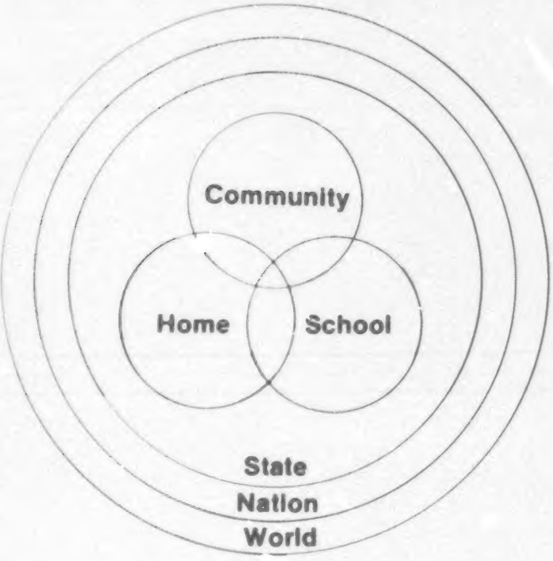
Have an open invitation that parents can come and visit/observe the class at any time. Ask them to let you know at least a day in advance.

Help students get noticed in the community by having art works, writings, etc. on display at the public libraries, banks, etc.

Remember that it's never too late to communicate with parents.

Vivian S.M. Hee
1983

Overview of Gifted and Talented Program


Community
Home
School
State
Nation
World

A Synergistic Approach

Pearl Ching, '83

1. Goals and Objectives
2. G/T Identification
3. Administrative Arrangements
4. Needs Assessment
5. Differentiated Curriculum
6. Instruction in the Disciplines
7. Unit and Lesson Planning
8. Implementation of Plans
9. **Student Products and Performances**
10. Evaluation

X. EVALUATION

Evaluation is essential for effective and successful programs for gifted and talented. Formative evaluation is used to improve the program in its developmental stages in order that intelligent changes can be made to improve it. Summative evaluation is done at the end of the process and helps to make decisions about the continuation, modification or termination of the program.

Dr. Joseph Renzulli's design in A Guidebook for Evaluating Programs for the Gifted and Talented involves four major steps:

1. Front-end analysis or input of observations, interviews, questionnaires, records.
2. Data collection and anlysis, administer the instruments, conduct the interviews and observations; tabulate, analyze and summarize the data.
3. Synthesis of input information--developing appropriate evaluation instruments (tests, scales, checklists, questionnaires, interviews, inventories, anecdotes, and logs).
4. File evaluation reports. Write narrative, statistical and graphic reports and make recommendations.

Richard Wolf in Evaluation in Education recommends that five major classes of information be collected:

1. Initial status of learners--Who are they and how proficient are they?
2. Learner proficiency and status after a period of instruction--What abilities, skills, affective outcomes are intended to result from the program, and have they been attained? What other outcomes were there? Evidences of learner behavior change must be gathered in a variety of ways, not limited to classroom or standardized tests.
3. Implementation of the educational treatment--Was the program implemented as planned with adequate resources?
4. Program costs--How much was allocated?
5. Supplemental information--
    a. The reactions, opinions and impressions of learners, teachers and others involved.

b. Learner peformances not specified in objectives

c. Side effects

For the gifted, where complex behaviors and high level performances are expected, the description, interpretation, and evaluation of the learner's products and performances as well as the processes by which such products and behavior are achieved are especially important.

Due to the scarcity of appropriate instruments, there may be a need for the teachers to design evaluation scales to complement the program objective. Some technical assistance will be needed by evaluation specialists.

RECOMMENDATIONS FOR EVALUATION INSTRUMENTS

K-3 Level

- Leither International Performance Scales
- Wichster Preschool and Primary Scale of Intelligence (WPPSI)
- Wechsler Intelligence Scale for Children - Revised (WISC-R)
- Peabody Picture Vocabulary Test (PPVT)
- Torrance Tests of Creative Thinking
- Wide Range Achievement Test (WRAT)
- Draw in Person Test
- Peabody Individual Achievement Test

4-6 Level

- Torrance Tests of Creative Thinking
- Ross Test of Higher Cognitive Processes
- Wide Range Achievement Test

High School

(Career)

- Strong-Campbell Interest Inventory
- John Hollan's Self-Directed Search
- Work Values Inventory
- Wide Range Achievement Test
- Woodcock Johnson Psychoeducational Battery
- Watson-Glaser Test of Critical Thinking
- Class Activities Questionnaire (CAG)

EVALUATION SHEET FOR CREATIVE SESSION

School	Grade	PUPPETRY					CREATIVE DRAMA					CREATIVE MOVE.					
		1. Focus	2. Enthusiasm	3. Manual Dex.	4. Thought into action	5. Create Dramatic situation	1. Adaptability	2. Vocal/physical	3. Imagination	4. Focus	5. Enthusiasm	1. Rhythm	2. Local motor	3. Free movement	4. Chac. develop 5. Sensitivity	Total	Teachers

AUDITION EVALUATION

Name ______________________________ Total Score ____________

School ______________________________

Grade ____________ Class ____________

Name of Audition Piece ______________________________

(1-5)

________ 1. Commands attention of the Group.

________ 2. Handles body with ease, physical freedom.

________ 3. Adapt good idea into action.

________ 4. Effectively uses gestures/facial expression.

________ 5. Originality of work.

________ 6. Incorporates a number of elements.

________ 7. Sense of rhythm, motor capability.

________ 8. Vocal strength and ability.

________ 9. Enthusiasm, imagination.

________ 10. Character development.

________ 11. Sensitivity.

________ 12. General Impression.

Comments:

Evaluation by Teacher

Pupil____ Date_________________________

School____ Teacher________________________

Grade____

Check according to your rating of growth during the school year.
1 = Not at all; 2 = Somehwat; 3 = Average; 4 = More than average; 5 = Exceptional

	1	2	3	4	5
Understanding of Self					
a. This student can assess his/her own strengths and weaknesses realistically.					
b. The student feels a sense of personal worth.					
c. To what extent would you describe the student as "self-accepting?"					
Love of Learning					
d. Does the student place too great a value on obtaining high grades?					
e. The student seems to have a "need to know."					
f. Does the student seem to value learning for its own sake?					
Social Conscience					
g. The student shows regard for less bright, younger, or otherwise "different" children.					
h. The student treats others with respect regardless of their status, color, or creed.					
i. Is the student sensitive to the feelings and needs of others?					
Tolerance for Ambiguity					
j. Does the student seem to feel comfortable with situations which may not have "right" or "wrong" answers?					
k. The student is willing to make up his own mind.					
l. The student is willing to consider more than one solution to a problem.					
Creative Thinking					
m. Originality is frequently characteristic of this student's ideas.					
n. There is an imaginative quality to the student's work.					

	1	2	3	4	5
Quantity and Quality of Production					
o. Do you consider the student's intellectual productivity adequate in quantity?					
p. Disregarding the amount of work produced, do you consider it adequate in quality?					
Response to Challenge					
q. The student seems eager to perform difficult tasks.					
r. The student is willing to persevere in a problem situation.					
Use of Teacher					
s. The student seems to gear responses to what is expected.					
t. The student seems to feel free to express opinions in teacher-pupil relationship.					
u. Does the student use you as a 'sounding board' for his/her own theories?					
v. Does the student seek you out for individual inquiry or discussion?					

The Identification of the Gifted and Talented
by Ruth Martinson p. 70-71

Teacher Evaluation of Student

Student's Name ______________________________ Date _______________

Grade __________ Homeroom ___________

Please evaluate this student by checking 1, 2, 3, 4, or 5 following each item according to the scale below. Think of him in relation to his performance at the start of the gifted program this year.

(1) Much less (2) Less (3) About the same (4) More (5) Much more

	1	2	3	4	5
1. Ability to solve problems					
2. Knowledge of subject matter areas					
3. Interest in school					
4. Ability to see relationships					
5. Ability to do reference work					
6. Ability to work independently					
7. Status in peer group					
8. Critical thinking ability (evaluation)					
9. Rapport with teachers					
10. Motivation to learn					
11. Knowledge of basic communication skills					
12. Intellectual curiosity					
13. Ability to accept responsibility					
14. Opportunity to create with things and ideas					
15. Self-understanding (strengths, weaknesses)					
16. Acceptance of leadership roles					

Comments:

____

Teacher's Name

Please answer the following questions:

17. Has participation in the gifted program helped your child? Please explain.

18. Has participation in the gifted program created any problems for your child? Please explain.

19. Would you like to have the gifted program continued? Please explain.

20. What changes, if any, would you suggest?

Parent's Name

Student Self-Evaluation

Student's Name ______________________________ Date ______________

Grade __________ Homeroom __________

Please think of yourself at the present time in comparison to last year. As a result of this year's work, please rate yourself on the following items. Check 1, 2, 3, 4, or 5 following each item according to the scale below.

(1) Much less (2) Less (3) About the same (4) More (5) Much more

	1	2	3	4	5
1. Ability to think things through for yourself					
2. Knowledge of subject matter areas (sci., s.s.)					
3. Interest in school					
4. Ability to see how things relate together					
5. Ability to find information					
6. Ability to work well by myself					
7. The liking of other students for me					
8. Ability to judge the usefulness of facts					
9. Ability to get along with my teachers					
10. Enjoyment of learning					
11. Knowledge of basic communication skills					
12. Curiosity about learning new things					

	1	2	3	4	5
13. Ability to accept responsibility					
14. Opportunity to make things and use ideas					
15. Knowledge of my strengths and weaknesses					
16. Willingness to do work as a leader					

Please answer the following questions:

17. Has being in the gifted program been helpful to you? Please explain.

18. Has being in the gifted program created any problems for you? Please explain.

19. Would you like to continue in a gifted program?

20. What changes would you suggest?

______________ RATING SCALE

Criteria	Definition	Rating Scale (Check one)			
		Excel-lent	Good	Fair	Poor
1		4	3	2	1
2		4	3	2	1
3		4	3	2	1
4		4	3	2	1
5		4	3	2	1

TOTAL SCORE ______________________
(Add checked box numbers

Usage: To rate students' product

1. To measure gain or change, use pre and post scores.
2. To measure achievement at and of project year, use post only. If post only is used, a standard of satisfactory must be defined before project year.

Definition of satisfactory:

A score equal to or greater than ______ is rated satisfactory, and a score below _______ is rated unsatisfactory. The score which you selected should be your best professional projection, based on your knowledge of the many constraints.

Evaluation Scale for Creative Writing

Code No. ______________________ Grade ________ Homeroom ______

Evaluator ______________________________ Date ______________

	low 1	2	3	4	high 5
Organization: unity, development, clarity					
Mechanics: structure, grammar, usage, spelling, punctuation					
Originality: creative fluency, emotional quality, imagination, style					
Unusual/Other Elements: dialogue, special format, mood, character development					
Column Total					
Weight					
Weighted Column					

TOTAL SCORE ☐

Central Oahu District
Gifted and Talented--Record Form

School: ______________________________

Student's Name: ______________________________ Address: ____ Phone: __________

Date of Entry into G/T Program: ____________________

Tests/Other Data Used for Selection	Date

Criteria Used for Selection	Date

Grade	Year	Areas of Study	Weekly Schedule	Teacher

Criteria for Excellence

These criteria are for school administrators, professional staff and community representatives to use as guidelines for developing, expanding and assessing local educational programs serving gifted and talented students. Some potential applications for information generated from using this program assessment instrument include:

Validation of exemplary programs/promising practices
Self-appraisal (by building, district, community level)
Development of long range goals
Planning for staff development, in-service and training activities
Disseminating information/public relations

Rating scale:
(1) not started, (2) started/little progress, (3) some progress, (4) almost achieved, (5) achieved.

I. Initiation of Program

A. Philosophy:

1. The program outlines procedures to identify and serve gifted and talented individuals. 1 2 3 4 5

2. The program outlines ways in which student participation is encouraged and supported. 1 2 3 4 5

3. The program is flexible and relevant to the school/community environment, providing for needs unique to the individual. 1 2 3 4 5

4. The total program is coordinated with and qualitatively different from the regular school program. 1 2 3 4 5

5. The student's individual educational plan supplements and extends beyond the regular education subject matter and activities. 1 2 3 4 5

6. Program instruction is provided by teachers, recognized experts, mentors and/or tutors with knowledge of the specific skill(s) identified in the individual education plans. 1 2 3 4 5

7. The program supports open communication between and among school personnel and community. 1 2 3 4 5

8. The staff-student ratio is such that it maximizes the quality of the student's program. 1 2 3 4 5

B. Support:

1. The program is supported by school and community. 1 2 3 4 5

2. The program is endorsed by the school board. 1 2 3 4 5

3. Gifted and Talented Education personnel are skilled in building and maintaining support for the program. 1 2 3 4 5

C. Planning:

1. A committee of school and community representatives is established to design, develop, implement and support the program. 1 2 3 4 5

2. The program is planned and organized prior to identification and programming for pupils. 1 2 3 4 5

3. Identification, programming, evaluation and record keeping procedures are consistent district-wide. 1 2 3 4 5

D. Leadership:

1. The authority, responsibility and time to develop and coordinate the gifted and talented program is assigned to an individual who:
   - a. understands the components of the total program; 1 2 3 4 5
   - b. is sensitive to the needs of students and teachers; 1 2 3 4 5
   - c. provides the leadership and resources to foster the development, review and updating of the program; 1 2 3 4 5
   - d. assists in the hiring of gifted and talented education personnel; 1 2 3 4 5
   - e. facilitates inservice for regular classroom teachers, as well as specialized staff; 1 2 3 4 5
   - f demonstrates a commitment to the gifted and talented program by informing the school board, the central administration and the community of the status of the program; and 1 2 3 4 5
   - g. provides encouragement and resources for teachers (i.e., to attend professional meetings). 1 2 3 4 5

Delivery of Program

A. Staffing:

1. School personnel are familiar with thinking, social and emotional characteristics of gifted and talented students. 1 2 3 4 5

2. The following combination of gifted and talented teacher characteristics are preferred: flexibility; public relations skills; humor; perceptivity; creativity; devotion; expertise; facilitative; secure; helpful. 1 2 3 4 5

3. The district has guidelines which outline the appropriate background for a gifted and talented teacher/facilitator. 1 2 3 4 5

4. The district provides for the involvement of tutors, mentors, volunteers, etc. in the program. 1 2 3 4 5

B. Identification:

1. Parents, students, school personnel, and community members are involved in the referral and nomination process. 1 2 3 4 5

2. Identification is multi-disciplinary and utilizes multiple performance indicators, both subjective and objective. 1 2 3 4 5

3. Non-biased identification procedures are established and utilized. 1 2 3 4 5

4. Provisions are made for informing individual students of their assessment results, whether or not they are selected for the gifted and talented program. 1 2 3 4 5

5. Experts (i.e., artists, musicians, scholars, writers) are utilized in identifying students. 1 2 3 4 5

C. Individual Education Plan/Placement:

1. Students enrolled in the program have the opportunity for peer group interaction. 1 2 3 4 5

2. Student activities promote self-direction and motivation. 1 2 3 4 5

3. Students are involved in their own educational planning and make choices among given alternatives. 1 2 3 4 5

4. Parents are involved in the individual planning and support for their children. 1 2 3 4 5

5. The individual education plans contain both long term goals and short term objectives. 1 2 3 4 5

6. Regular classroom teachers are involved in the educational planning for each student. 1 2 3 4 5

7. The individual education plans provide for the unique needs of each student. 1 2 3 4 5

8. Change in the student's instructional program is based on results of the annual individual education plan review. 1 2 3 4 5

D. Resources:

1. Materials and activities are accessible and utilized as specified on the individual education plans. 1 2 3 4 5

2. There is a continual review and inspection of commercially prepared materials to determine research validity. 1 2 3 4 5

3. Current professional publications relating to gifted and talented education are available. 1 2 3 4 5

4. Regular classroom teachers have access to gifted and talented education materials. 1 2 3 4 5

5. Adequate space is provided for the program. 1 2 3 4 5

6. Community resources are utilized. 1 2 3 4 5

E. Curriculum:

1. The curriculum is appropriate to the needs of the students. 1 2 3 4 5

2. The curriculum supplements and extends beyond the regular education subject matter and activities. 1 2 3 4 5

3. Individuals determining the students program consider the curriculum alternatives of: 1 2 3 4 5

college level work
career education
creative thinking skills
problem solving skills
decision making behavior
life planning
self-awareness/self-esteem building
inquiry techniques
interpersonal skills
analytical skills
study habits
synthesis skills
independent study

III. Staff Development and Community Awareness

A. At least annually, inservice opportunities related to gifted and talented education are provided for:

1. administrators 1 2 3 4 5

2. teachers of gifted and talented students 1 2 3 4 5

3. regular classroom teachers 1 2 3 4 5

4. counselors 1 2 3 4 5

5. para-professionals and aides 1 2 3 4 5

6. other "experts" 1 2 3 4 5

B. Inservice topics, as determined by a systematic assessment of needs, include:

1. characteristics of the gifted and talented 1 2 3 4 5

2. curriculum development and modification 1 2 3 4 5

3. improving teaching strategies and recognizing different learning styles 1 2 3 4 5

4. current information on developments in gifted and talented education elsewhere 1 2 3 4 5

5. organizational and operational tasks involved in a gifted and talented program 1 2 3 4 5

6. related research 1 2 3 4 5

C. Open lines of communication between and among school personnel and community:

1. have been established 1 2 3 4 5
2. are maintained 1 2 3 4 5

D. Continually updated gifted and talented information packets are utilized as a resource for new and returning staff, students, parents and other community members. The packet includes, but is not limited to, the following:

1. history of gifted and talented education locally and nationally 1 2 3 4 5
2. description of local program 1 2 3 4 5
3. student selection criteria for the program 1 2 3 4 5
4. referral, assessment and placement process 1 2 3 4 5
5. personnel and material resources 1 2 3 4 5
6. roles and responsibilities of personnel 1 2 3 4 5

IV. Evaluation of Program

A. The evaluation system includes documented feedback from parents, pupils and school personnel. 1 2 3 4 5

B. There is an on-going evaluation system measuring program effectiveness that includes, but is not limited to:

1. identification procedures 1 2 3 4 5
2. program goals and objectives 1 2 3 4 5
3. instructional alternatives and teaching strategies 1 2 3 4 5
4. plans for program modification as needed, based on conclusions and recommendations 1 2 3 4 5
5. curriculum complementing student's program 1 2 3 4 5
6. outlined procedure for follow up after student leaves the program. 1 2 3 4 5

C. There is an on-going evaluation system measuring student performance objectives and an annual review of the individual education plan goals. 1 2 3 4 5

D. Evaluation results are communicated to parents and regular classroom teachers quarterly. 1 2 3 4 5

Alaska State Department of Education

Appendix

SOME DEPARTMENT OF EDUCATION RESOURCE GUIDES

APPROVED INSTRUCTIONAL MATERIALS (Annually)

CAREER EDUCATION HANDBOOK OF COMMUNITY RESOURCES AND VISITATION SITES, 1980, 1982

COMPREHENSION IN THE CONTENT AREAS, 3-6 and 7-12 STRATEGIES FOR BASIC SKILLS, 1979

ELEMENTARY SOCIAL STUDIES PROGRAM K-6, 1981

ENVIRONMENTAL EDUCATION K-12 CURRICULUM GUIDE, 1981

ETV BROADCAST SCHEDULED PROGRAM GUIDE (Annually)

FOREIGN LANGUAGE PROGRAM GUIDE 1977

FOUNDATION PROGRAM'S AUTHORIZED COURSES AND CODE NUMBERS

FOUNDATION PROGRAM CAREER EDUCATION AND GUIDANCE, 1980

FOUNDATION PROGRAM FOR THE PUBLIC SCHOOLS OF HAWAII, 1971

GUIDANCE CURRICULUM GUIDE - CAREER DEVELOPMENT, 1982

HAWAII ART EDUCATION PROGRAM GUIDE, 1978

HAWAII STATE GUIDELINES AND PROCEDURES FOR GIFTED AND TALENTED EDUCATION, 1982

HAWAIIAN STUDIES CURRICULUM GUIDE 4, 5 and 6, 1983

HAWAIIAN STUDIES PROGRAM GUIDE, 1981

INTEGRATING LIBRARY SKILLS INTO CONTENT AREAS: SAMPLE UNITS AND LESSON PLANNING FORMS, 1979

K-12 MUSIC EDUCATION PROGRAM GUIDE, 1979

LANGUAGE ARTS PROGRAM GUIDE K-12, 1979

LANGUAGE ARTS STRATEGIES FOR BASIC SKILLS K-2, 1979

LIBRARY/STUDY SKILLS INSTRUCTION IN HAWAII'S SCHOOLS - A GUIDE FOR TEACHERS AND LIBRARIANS, 1982

MATHEMATICS PROGRAM GUIDE, GR. K-6 and 7-12, 1978

PHYSICAL EDUCATION PROGRAM GUIDE K-12, 1979

SCIENCE CURRICULUM GUIDE GR. K-6 and 7-9, 1978

SCIENCE CURRICULUM GUIDE GR. 9-12, 1981

SECONDARY SOCIAL STUDIES PROGRAM GUIDE SUPPLEMENT, 1980

STATE PLAN FOR PROVIDING APPROPRIATE EDUCATIONAL OPPORTUNITIES FOR THE GIFTED AND TALENTED, 1977

STATE WRITING IMPROVEMENT FRAMEWORK, 1980

STUDENT ACTIVITIES GUIDE, 1981

STUDENT PERFORMANCE EXPECTATIONS OF THE FOUNDATION PROGRAM, 1978

TAC GUIDELINES AND VIDEO HOLDINGS LIST, 1982

16 MM FILM CATALOG, 1982

RECOMMENDED BASIC RESOURCES FOR GIFTED/TALENTED

References:

Teaching the Gifted Child by J. Gallagher
Allyn and Bacon, 1976
N/S-LTI-G/T: Ventura County Superintendent of Schools
535 East Main Street
Ventura, CA 93009

A Guidebook for Evaluating Program for the Gifted and Talented by J. Renzulli

Providing Programs for the Gifted and Talented by S. Kaplan

A Handbook for Parents of Gifted and Talented by J. Delp and R. Martinson

The Identification of the Gifted and Talented by R. Martinson

A Guide Toward Better Teaching for the Gifted by R. Martinson

What is Giftedness? by J. Renzulli

Developing IEPs for the Gifted/Talented by S. Butterfield, S. Kaplan, M. Meeker, J. Renzulli, L. Smith and D. Treffinger

Encouraging Creative Learning for the Gifted and Talented: A Handbook for Methods and Techniques by D. Treffinger

Educating the Preschool/Primary Gifted and Talented by Sandra Kaplan

Inservice Training Manual: Activities for Identification/Program Planning for the Gifted/Talented by Kaplan, Madsen, Gould, Platow and Renzulli

Inservice Training Manual: Activities for Developing Curriculum for the Gifted/Talented by Sandra Kaplan

Differential Educational for the Gifted by Virgil S. Ward

Secondary Programs for Gifted/Talented, Arnold et al.

Gifted Children, Their Psychology and Education by M. Freehill

Curricula for the Gifted Kaplan et al.

Resource Books/Units:

Classroom Ideas for Encouraging Thinking and Feeling by Frank Williams
DOK Publishers

Affective Education Guidebook by Bob Ebeile and Rosie Hall DOK Publishers

Scamper by Bob Ebeile DOK Publishers

Activity Mind Set Guide by Gene Galleli DOK Publishers

Aha! Insights Into Creative Behavior by Sidney Parnes
DOK Publishers

Change for Children by Sandra Kaplan Goodyear Publishing Co.

Sample Units in Higher Level Thinking by Ruth Arent

Curriculum Guides for Teaching Gifted
California State Department
of Education
P.O. Box 271
Sacramento, CA 95802

65¢ each
Social Sciences (1-3, 4-6, 7-9)
Science: A Unit on Microbiology (4-6)
Science: A Sample Ecology Unit (1-4)
Literature (1-3, 4-6, 7-9)
Music (1-6)
Literature and Language (9-12)
Art (4-6, 7-9, 10-12)
Foreign Language (10-12)

Chart Your Own Course (resource pamphlet - 65¢ each

Measurements:

Scales for the Rating Behavioral Characteristics of Superior Students
by Renzulli and others
Bureau of Educational Research
School of Education
University of Connecticut
Storrs, CT 06268

Slosson Test:

Tennessee Self Concept Scale (Counseling Form)
Counselor Recording & Tests
P.O. Box 6184 Ackley Street
Nashville, TN 37212

Checklist of Creative Positives by E. Paul Torrance

Torrance Tests oc Creative Thinking
Personnel Press
Princeton, NJ 08540

Periodicals:

LTI Bulletin (Monthly)--N/S-LTI-G/T
316 W. Second Street, Suite PH-C
Los Angeles, CA 90012

G/C/T Gifted/Creative/Talented (Bi-monthly)
Box 6654
Mobile, AL 36606

Gifted Child Quarterly
National Association for Gifted Children
217 Gregory Drive
Hot Springs, AR 71901

Roeper Review (Quarterly)
A Journal on Gifted Education
Roeper Publications
Roeper City and Country Schools
Bloomfield Hills, MI 48013

Gifted/Talented Education (Bi-monthly)
Gifted/Talented Education, Inc.
97 Mill Plain Road
Branford, CT 06405

Teaching Gifted Children (nine times/year)
Croft-Nei
24 Rope Ferry Road
Waterford, CT 06386

Publishing Companies:

D.O.K.
71 Radcliffe Road
Buffalo, NY 14214

Goodyear Publishing Co., Inc.
Santa Monica, CA 90401

Creative Learning Press
530 Silas Deane Highway
Wethersfield, CT 06109

Midwest Publications
P.O. Box 448
Pacific Grove, CA 93950

Problem-Solving:

Psychology of Problem-Solving, Theory and Practice
Basic Books, Inc., N.Y. 1973

Teaching Creative Thinking and Problem-Solving
Kendall Hunt Publishing Co., Iowa 1977

Critical Thinking by A. Harnadek
Midwest Publications Co., Inc.

Research Skills:

Writing History Papers by J. Bennett and L. Harrison
Forum Press, Missouri 1979

Form and Style: Theses, Reports, Term Papers by W. Campbell and S. Ballou
Houghton Miffline Co., Boston 1978 ($5.95)

Interviewing Principles and Practices by C. Stewart and W. Cash
Wm. C. Brown Company Publications, Iowa 1978 ($8.95)

Listening and Note-Taking
McGraw Hill Book Co., N.Y. 1979 ($8.50)

ANNOTATED LIST OF STANDARDIZED TESTS
USED WITH GIFTED STUDENTS

Individual Tests of Intelligence

Leiter International Performance Scale -

An individual nonverbal scale for ages 2-18; is most suitable for children 3-8. It gives both MA and IQ. It has no time limits. Test is administered by showing picture cards and pantomining directions. The IQ equivalency of the 98 percent serve on the Leiter is 127. Useful for testing children with speech and hearing difficulties, foreign born, cross-cultural and bilingual children, and shy or withdrawn children. Use by experienced clinician advised.

C.H. Stoelting Co., 424 N. Homan Avenue, Chicago, IL 60624

Group Intelligence Tests

Goodenough - Harris Drawing Test

A test for children aged 3-15 asks the child to make a picture of a man, a woman, or of self that is then evaluated for accuracy of observation and the development of conceptual thinking. The test takes about five or ten minutes and is scored by checking points in the manual. It may be administered individually or to groups. This is a quick, nonverbal test of intellectual maturity recommended especially for preschool children and those with language handicaps.

Harcourt, Brace, Jovanovich, 737 3rd Avenue, Test Department
New York, New York 10017

California Achievement Tests

A group achievement test series gr.2.5 to gr. 14. Intended as diagnostic tests. Machine scored for reading vocabulary, reading comprehension, reading total. arithmetic reasoning, arithmetic fundamentals, arithmetic total, mechanics of English, spelling, language total, total handwriting. Student profile sheets available.

California Test Bureau, Del Monte Research Park, Monterey, CA 93940

Metropolitan Achievement Tests

A group achievement test series at six levels Gr. 1.5 - 12. The test was designed to measure achievement on what was determined to be material which students were most commonly exposed, in reading, math and language. It does not measure higher cognitive processes, but it is possible to measure superior achievement. Measurement of poor learners is generally inadequate. Machine scorable.

Harcourt, Brace, Jovanovich, 737 3rd Avenue, Test Department
New York, New York 10017

SRA Achievement Series

A group test of achievement that measures performance in arithmetic, reading, and language arts in separate subtests or a multilevel edition for gr. 4-9 which also include: social science and work-study skills. This includes tests of beginning reading at the primary level. It is reported to be one of the most valid and reliable test.

Science Research Associates, Inc., 259 East Erie Street
Chicago, Illinois 60611

Stanford Achievement Tests

This achievement test is for grades 1.5 to 9.9 in reading, arithmetics, social sciences, science, word study skills, language and spelling. Also available are the SAT High School Arts and Humanities Test and Stanford Early School Achievement Test (K-12). The test is most widely used for evaluation purposes.

Specialized Test

Learning Methods Test

This test is designed to aid teachers in determining the individual student's ability to learn new words in four methods: visual, auditory, kinesthetic or combined. Primary level

Mills Center, 1512 East Broward Avenue, Fort Lauderdale, Florida 33310

Personal - Social Tests

California Psychological Inventory

This test is presented in true-false format and attempts to measure character traits that may predict social behavior (e.g., leadership, social maturity, college attendance, academic achievement, etc.). Designed for age 13 and above.

Consulting Psychologists Press, Inc. 577 College Avenue
Palo Alto, California 94306

Personal Orientation Inventory

An instrument developed to measure values, attitudes, and behavior relevant to Maslow's concept of the self-actualized person by self-report. The test may be used with gr. 9-16 and is one of the few tests of personality that focus directly on sound functioning rather the presence or absence of pathology. Content validity is reported to be quite good.

Educational and Industrial Testing Service, P.O. Box 7234
San Diego, California 92107

Tests of Creativity
Torrance Tests of Creative Thinking

A test of creativity based on Guilford's Structure of the Intellect that may be given individually or in groups for grades K through college. It is subdivided into verbal and figural subtests with scores given for fluency, flexibility, originality and elaboration in each area. This test alone is not an adequate predictor of adult creative achievement.

Personnel Press, Inc., 191 Spring Street
Lexington, Massachusetts 02173

SELECTED REFERENCES ON

CURRICULUM DEVELOPMENT FOR THE GIFTED/TALENTED

January, 1983

Prepared by
Irving S. Sato, Director
National/State Leadership Training Institute
on the Gifted and the Talented

California State Department of Education, *Principles, Objectives, and Curricula for Programs in the Education of Gifted and Talented Pupils, Kindergarten-Grade Twelve*, Sacramento, California State Department of Education, 1979.

Clark, Leonard H., *Strategies and Tactics in Secondary School Teaching: A Book of Readings*, New York, The Macmillan Company, 1968.

Eggen, Paul D., Donald P. Kauchak, and Robert J. Harder, *Strategies for Teachers: Information Processing Models in the Classroom*, Englewood Cliffs, New Jersey, 1979.

Joyce, Bruce, and Marsha Weil, *Models of Teaching*, Second Edition, Englewood Cliffs, New Jersey, Prentice-Hall, Inc., 1980.

Kaplan, Sandra N., *Inservice Training Manual: Activities for Developing Curriculum for the Gifted/Talented*, Ventura, California, Office of the Ventura County Superintendent of Schools, 1979.

Kaplan, Sandra N., *Providing Programs for the Gifted and Talented: A Handbook*, Ventura, California, Office of the Ventura County Superintendent of Schools, 1974.

Maker, June C., *Curriculum Development for the Gifted*, Maryland, Aspen Systems Corporation, 1982.

Moore, W. Edgar, *Creative and Critical Thinking*, Boston, Houghton Mifflin Company, 1967.

Phenix, Philip H., *Realms of Meaning*, New York, McGraw-Hill Book Company, 1964.

Pratt, David, *Curriculum Design and Development*, New York, Harcourt Brace Jovanovich, Inc., 1980.

Rubin, Louis, *Curriculum Handbook: The Disciplines, Current Movements, and Instructional Methodology*, Boston, Allyn and Bacon, Inc., 1977.

Taba, Hilda, *Curriculum Development: Theory and Practice*, New York, Harcourt, Brace & World, Inc., 1962.

Tyler, Ralph W., *Basic Principles of Curriculum and Instruction*, Chicago, The University of Chicago Press, 1949.

Ward, Virgil S., *Differential Education for the Gifted*, Ventura, California, Office of the Ventura County Superintendent of Schools, 1980.

SELECTED REFERENCES ON CREATIVITY AND THE GIFTED/TALENTED

February, 1982

Prepared by Irving S. Sato, Director
National/State Leadership Training Institute
on the Gifted and the Talented

Arasteh, A. Reza and Josephine B. Arasteh, *Creativity in Human Development: An Interpretive and Annotated Bibliography*, Cambridge, Massachuetts, Schenkman Publishing Company Inc., 1976.

Arieti, Silvano, *Creativity: The Magic Synthesis*, New York, Basic Books, Inc., Publishers, 1976.

Arnheim, Rudolf, *Visual Thinking*, Berkeley, University of California Press, 1969..

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Bruch, Catherine B., *et al.*, *The Faces and Forms of Creativity*, Ventura, California Ventura County Superintendent of Schools Office, 1981.

Callahan, Carolyn M., *Developing Creativity in the Gifted and Talented*, Reston, Virginia, The Council for Exceptional Children, 1978.

Campbell, David, *Take the Road to Creativity and Get Off Your Dead End*, Niles, Illinois, Argus Communications, 1977.

DeBono, Edward, *Problem Solving Course for Juniors*, Blandford Forum, Dorest, England, Direct Education Services, 1974.

Feldhusen, John F. and Donald J. Treffinger, *Creative Thinking and Problem Solving in Gifted Education*, Dubuque, Iowa, Kendall/Hunt Publishing Company, 1980.

Getzels, Jacob W. and Mihaly Csikszentmihalyi, *The Creative Vision: A Longitudinal Study of Problem Finding in Art*, New York, John Wiley and Sons, Inc., 1976.

Ghiselin, Brewster, ed., *The Creative Process*, New York, American Library of World Literature, Inc., 1963.

Gordon, W. J. J., *The Metaphorical Way of Learning and Knowing*, Cambridge, Massachusetts, Porpoise Books, 1973.

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Gowan, John Curtis, Joseph Khatena, and E. Paul Torrance, *Creativity: Its Educational Implications*, Dubuque, Iowa, Kendall/Hunt Publishing Company, 1981.

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Khatena, J., *The Creatively Gifted Child: Suggestions for Parents and Teachers*, Starkville, Mississippi, Allan Associates, 1978.

May, Rollo, The Courage To Create, New York, W. W. Norton and Company, 1975.

MacKinnon, D. W., In Search of Human Effectiveness, Buffalo, Creative Education Foundation, Inc., 1978.

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Noller, Ruth B., Sidney J. Parnes, and Angelo M. Biondi, Creative Actionbook, revised edition, New York, Charles Scribner's Sons, 1976.

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Rothenberg, Albert and Carl R. Hausman, eds., The Creativity Question, Durham, North Carolina, Duke University Press, 1976.

Samples, Robert, Metaphorical Thinking, Reading, Massachussetts, Addison-Wesley, 1977.

Shallcross, Doris J., Teaching Creative Behavior, Englewood Cliffs, New Jersey, Prentice-Hall, Inc., 1981.

Stein, Morris I., Stimulating Creativity, Volumes 1 and 2, New York, Academic Press, 1975.

Taylor, Calvin W., ed., Climate for Creativity, New York, Pergamon Press, Inc., 1972.

Taylor, Calvin and Frank Barron, eds., Scientific Creativity: Its Recognition and Development, Huntington, New York, Robert E. Krieger Publishing Company, 1975.

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Worthy, Morgan, Aha! A Puzzle Approach to Creative Thinking, Chicago, Nelson Hall Inc., 1975.

ADDRESSES FOR TEACHERS AND PROGRAM COORDINATORS

The following companies produce a variety of materials for developing thinking in gifted/talented students.

D.O.K.
(Disseminators of Knowledge)
71 Radcliffe Road
Buffalo, NY 14214

Engin-Uity, Ltd.
P. O. Box 9510
Phoenix, AZ 85068

SOI Institute
343 Richmond St.
El Segundo, CA 80245

The Analogy
4040 University, Suite B
Des Moines, IA 50311

Midwest Publications
P. O. Box 448
Pacific Grove, CA 93950

Creative Problem Solving Institute
Creative Education Foundation
State University College at Buffalo
1300 Elmwood Avenue - Chase Hall
Buffalo, NY 14222

Future Problem Solving Program
Coe College
Cedar Rapids, IA 52402

National Association for
Gifted Children (NAGC)
5100 N. Edgewood Drive
St. Paul, MN 55112

SIRS
(Social Issues Resources Series, Inc.)
P. O. Box 2507
Boca Raton, FL 33432

Greenhaven Press
577 Shoreview Park Road
St. Paul, MN 55112

New Dimensions of the 80's Publishers
P. O. Box 8559
Woodcliff Lake, NJ 07675

Creative Learning Press
P. O. Box 320
Mansfield Center, CT 06250

120 Creative Corner
Box 12341
New Brighton, MN 55112

Resources for the Gifted
3421 North 44th Street
Phoenix, AZ 85018

Book Lures, Inc.
P. O. Box 9450
O'Fallon, MO 63366

Good Apple, Inc.
Box 299
1204 Buchanan
Cathage, IL 62321

Word Future Society
4916 St. Elmo Ave.
Washington, D.C. 20014

American Guidance Service
Circle Pines, Mn 55014
(The Bookfinder Vol 1 & 2)

National State Leadership
Training Institute on G/T
316 W. Second St., Suite PH-C
Los Angeles, CA 90012

Creative Competitions, Inc.
P. O. Box 27
Glassboro, NJ 08028

Thinking Caps, Inc.
P. O. Box 7239
Phoenix, AZ 85011

TEACHER RATING SHEET FOR IDENTIFYING LEADERSHIP ABILITIES

	Seldom	Occa-sionally	Much of the Time	Most of the Time
1. Language: Expresses self well, has both a good command of language and can be easily understood				
2. Responsibility: Shows responsibility and ability to carry through on identified tasks				
3. Collaboration: Shows collaborative behavior with peers, teachers				
4. Sociability: Enjoys relating and working with other people				
5. Dominance: Generally directs activities pursued				
6. Flexibility and adaptability: Tolerates changes in routine, adjusts easily to new situations				
7. Physical Strength: Shows strength, endurance and good health through bodily control and erect posture				
8. Confidence: Feels pride of self assuredness when talking or working with others				
9. Activity level: Uses great energy, maintains active participation with people and projects and shows great enthusiasm for people and projects				
10. Liking: Appears well-liked by peers and others				
11. Knowledge and experience: Possesses maturity in handling experiences, students "refer to" for special knowledge				

TEACHER RATING LIST FOR IDENTIFYING INTELLECTUAL TALENT

1. Learns quickly and easily.
2. Uses common sense.
3. Comprehends meanings easily, thinks clearly, sees relationships.
4. Retains well.
5. Has knowledge about and an interest in a variety of things.
6. Uses a large vocabulary effectively.
7. Reads books above grade level.
8. Can do difficult mental tasks.
9. Shows an interest in a wide range of things, asks intelligent questions.
10. Does some above grade level work.
11. Uses good and sometimes unusual methods of work.
12. Is very observant, alert, responds readily.

TEACHER RATING LIST FOR IDENTIFYING SCIENTIFIC TALENT

1. Is clear and accurate in oral and written expression.
2. Reads above grade level materials.
3. Performas arithmetical operations above grade level.
4. Has good coordination.
5. Does more than the assignment.
6. Rises above the failures met in experimenting or making projects.
7. Wants to know the reasons and causes for things.
8. Engages in his own special projects, spending much time and effort.
9. Reads much scientific material.
10. Appears to enjoy discussing scientific topics.

KYRENE SCHOOL DISTRICT #28
Tempe Arizona

ESEA Title III

TEACHER RATING LIST FOR IDENTIFYING ARTISTIC TALENT

1. Draws variety of things (not just jets or horses or people).
2. Puts depth into pictures, plans pictures, and uses good proportion.
3. Takes art work seriously. Seems to find much satisfaction in it.
4. Shows originality. Draws things in ways no other children do.
5. Is willing to try out new materials and experiences.
6. Fills extra time with drawing and painting activities.
7. Uses art to express his/her own experiences, his/her own feelings.
8. Is interested in other people's art work. Can appreciate, criticize, and learn from other's work.
9. Likes to model with clay, carve soap, or work with other forms of three-dimensional art.

TEACHER RATING LIST FOR IDENTIFYING DRAMATIC TALENT

1. Readily shifts into the role of another character, animal or object.
2. Shows interest in dramatic activities.
3. Uses voice to reflect changes of idea and mood.
4. Understands and portrays the conflict in the situation, when given the opportunity to act out a dramatic event.
5. Communicates feelings by means of facial expression, gestures, and bodily movements.
6. Enjoys evoking emotional responses from listeners.
7. Shows unusual ability to dramatize feelings and experience.
8. Moves a dramatic situation to a climax and brings it to a well-timed conclusion when telling a story.
9. Gets a good deal of satisfaction and happiness from playacting or dramatizing.
10. Writes original plays or makes up plays from stories.
11. Can imitate others; mimics people and animals.

KYRENE SCHOOL DISTRICT #28
Tempe, Arizona
ESEA Title III

TEACHER RATING LIST FOR IDENTIFYING THE TALENTED IN MUSIC

1. Has good coordination.
2. Has a good sense of rhythm.
3. Has excellent discrimination.
4. Understands musical symbols and relationships vividly.
5. Shows enjoyment of musical activities.
6. Performs with musical feeling.
7. Has a degree of tonal memory.
8. Responds readily to rhythm, melody, and harmony.
9. Plays one or more musical instruments well and/or sings well.
10. Makes up original tunes.

TEACHER RATING LIST IDENTIFYING PSYCHOMOTOR TALENT

1. Is energetic and seems to need considerable exercise to stay happy.
2. Enjoys participating in highly competitive games.
3. Is consistently outstanding in many kinds of competitive games.
4. Is one of the fastest runners in the class.
5. Is one of the best coordinated children in the class.
6. Likes outdoor sports, hiking, camping.
7. Is willing to spend much time practicing physical activities such as shooting baskets, playing tennis, passing a ball.

KYRENE SCHOOL DISTRICT
Tempe, Arizona
ESEA Title III

TEACHER CHECKLISTS

Checklist for Kindergarten*

Directions: Please place an X in the space beside each question which BEST describes the pupil.

A. Language YES NO

1. The pupil is able to read. ___ ___
2. The pupil understands his relationship in such words as up-down, top-bottom, big-little, far-near. ___ ___

B. Psychomotor Abilities

1. The pupil exhibits coordination by being able to bounce a ball or tie his shoelaces. ___ ___
2. The pupil can complete the missing parts of an incomplete familiar picture by drawing the parts in their proper perspective. ___ ___

C. Mathematics

1. The pupil can repeat five digits forward and reversed. ___ ___
2. The pupil recognizes and understands the value of coins ___ ___

D. Creativity

1. The pupil interprets stories or pictures in his own words. ___ ___
2. The pupil displays curiosity by asking many questions or by other types of behavior. ___ ___

E. General Characteristics

1. The pupil readily adapts to new situations; he is flexible in thought and action; he seems undisturbed when the normal routine is changed. ___ ___
2. The pupil seeks new tasks and activities. ___ ___
3. The pupil tends to dominate others and generally direct the activity in which he is involved.

---

*Taken and adapted from materials prepared for Dade County, Florida Public Schools, Mr. James Miley, Coordinator for the Gifted.

Checklist for First Grade Pupils*

Directions: Please place an X in the space beside each question which BEST describes the pupil.

		YES	NO
1.	The pupil reads two years above grade level.	___	___
2.	The pupil recognizes the number and sequences of steps in a specified direction.	___	___
3.	The pupil forms sets and subsets.	___	___
4.	The pupil understands the concepts of place value.	___	___
5.	The pupil recognizes the properties of right angles.	___	___
6.	The pupil can create a short story from a familiar subject.	___	___
7.	The pupil interprets stories and pictures in his own words.	___	___
8.	The pupil questions critically.	___	___
9.	The pupil demonstrates flexibility in his thinking pattern and the ability to communicate to others.	___	___
10.	The pupil is self-confident with pupils in his own age, and/or adults; seems comfortable when asked to show his work to class.	___	___
11.	The pupil has a well-developed vocabulary.	___	___
12.	The pupil has a vivid imagination and enjoys sharing his "stories" with others.	___	___

---

*Taken and adapted from materials prepared for Date County, Florida Public Schools, Mr. James Mily, Coordinator for the Gifted.

Checklist for Grades 2-6*

Directions: Please place an X in the space beside each question which BEST describes the pupil.

	YES	NO
A. Learning Characteristics		
1. Has verbal behavior characterized by "richness" of expression, elaboration, and fluency	___	___
2. Possesses a large storehouse of information about a variety of topics beyond the usual interests of youngsters his age.	___	___
3. Has a ready grasp of underlying principles and can quickly make valid generalizations about events, people or things; looks for similarities and differences.	___	___
4. Tries to understand complicated material by separating it into respective parts; reasons things out for himself; sees logical and common sense answers.	___	___
B. Motivational Characteristics		
1. Is easily bored with routine tasks.	___	___
2. Prefers to work independently; needs minimal direction from teachers.	___	___
3. Has tendency to organize people, things and situations.	___	___
4. Is positive and zealous in his beliefs.	___	___
C. Leadership Characteristics		
1. Carries responsibility well; follows through with tasks and usually does them well.	___	___
2. Seems respected by his classmates.	___	___
3. Is self-confident with children his own age as well as adults; seems comfortable when asked to show his work to the class.	___	___
4. Is shy, responding generally when called upon.	___	___
5. Is "bossy" with his peers.	___	___

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*Taken and adapted from materials prepared for Dade County, Florida Public Schools, Mr. James Miley, Coordinator for the Gifted.

Checklist for Recommending Gifted and Creative Students*

(Middle Grades and Above)

Student's Name ____________ School ____________ Grade ______ Homeroom ______

Teacher's Name ____________ School Term ____________

To the Teachers:

We need your help. We're looking for children in your classroom who you feel might be more able than their test scores indicate. The following list of characteristics, while by no means all inclusive, represents traits found in gifted and creative children. If any student in your class is described by at least twelve (12) of the items on this list, you may want to watch him more carefully for possible inclusion in the gifted program. Those items which are most applicable should be double checked. Will you help us by responding to the following checklist for the top students in your class? Supporting information and comments should be written on the back of this form.

____ 1. Is an avid reader.

____ 2. Has received an award in science, art, literature.

____ 3. Has avid interest in science or literature.

____ 4. Very alert, rapid answers.

____ 5. Is outstanding in math.

____ 6. Has a wide range of interests.

____ 7. Is very secure emotionally.

____ 8. Is venturesome, anxious to do new things.

____ 9. Tends to dominate peers or situations.

____ 10. Readily makes money on various projects or activities--is an entrepreneur.

____ 11. Individualistic--likes to work by self.

____ 12. Is sensitive to feelings of others--or to situations.

____ 13. Has confidence in self.

____ 14. Needs little outside control--disciplines self.

____ 15. Adept at visual art expression.

____ 16. Resourceful--can solve problems by ingenious methods.

____ 17. Creative in thoughts, new ideas, seeing associations, innovations, etc. (not artistically).

____ 18. Body or facial gestures very expressive.

____ 19. Impatient--quick to anger or anxious to complete a task.

____20. Great desire to excel even to the point of cheating.

____21. Colorful verbal expressions.

____22. Tells very imaginative stories.

____23. Frequently interrupts others when they are talking.

____24. Frank in appraisal of adults.

____25. Has mature sense of humor (puns, associations, etc.).

____26. Is inquisitive.

____27. Takes a close look at things.

____28. Is eager to tell others about discoveries.

____29. Can show relationships among apparently unrelated ideas.

____30. Shows excitement in voice about discoveries.

____31. Has a tendency to lose awareness of time.

---

*San Francisco Unified School District Programs for Mentally Gifted Minors, William B. Cummings, Supervisor.

Synthesis of Screening Procedures for Identifying Gifted Children in the Elementary School

William B. Cummings Ed.D.
1531 Willard Street
San Francisco, CA 94117

To the Teachers:

We need your help. We're looking for children in your classroom who you feel might be a lot smarter than their test scores indicate. The following list of characteristics, while by no means inclusive, represent traits found in gifted and creative children. If any student in your class is described by at least twelve (12) of the items on this list, you may want to watch him/her more carefully for possible inclusion in the gifted program. Those items which are most applicable should be double checked. Will you help us by responding to the following check list for the top students in your class. This check list should be sent to the Building Principal who will then forward it to the Gifted Program Office. Supporting information and comments should be written on the back of this form.

1. Is an avid reader.
2. Has received an award in science, art, literature.
3. Has avid interest in science or literature.
4. Very alert, rapid answers.
5. Is outstanding in math.
6. Has a wide range of interests.
7. Is very secure emotionally.
8. Is venturesome, anxious to do new things.
9. Tends to dominate peers or situations.
10. Readily makes money on various projects or activities - is an enterprenour.
11. Individualistic - likes to work by self.
12. Is sensitive to feelings of others - or to situations.
13. Has confidence in self.
14. Needs little outside control - disciplines self.
15. Acept at visual art expression.
16. Resourceful - can solve problems by ingenious methods.
17. Creative in thoughts, new ideas, seeing associations, innovations etc. (not artistically).
18. Body or facial gestures very expressive.
19. Impatient - quick to anger or anxious to complete a task.
20. Great desire to excel even to the point of cheating.
21. Colorful verbal expressions.
22. Tells very imaginative stories.
23. Frequently interrupts others when they are talking.
24. Frank in appraisal of adults.
25. Has mature sense of humor (puns, associations, etc.)
26. Is inquisitive.
27. Takes a close look at things.
28. Is eager to tell others about discoveries.
29. Can show relationships among apparently unrelated ideas.
30. Shows excitement in voice about discoveries.
31. Has a tendency to lose awareness of time.

I. CHECKLIST

Note number of checks and double checks.

Look for #1, 5, 25 (more often than not when these three items have been checked the child will qualify, especially if the child is in the primary grades.

II. Cumulative Record Folder

Check to see if student previously was tested for gifted program

Check standaridized math and reading percentiles and Metropolitan readiness tests.

Check educational level and occupation of parents.

Check to see if student has gifted siblings.

Check how long student has been in United States.

Check teacher's written evaluations and reports of parent conferences.

Check health records.

III. Interview - Student

Try to get student to feel comfortable.

Solicit answers to questions as:

Primary Level

In what year were you born?

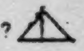
If you were 10 years old today, in what year would you have been born?

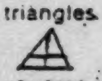
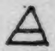
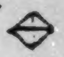
In what year will you be twice as old as you are now?

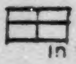
How many days are there in half a week?

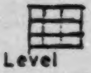
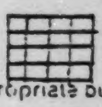
If you had 9 cookies and wanted to give me h[illegible] how many would I get?

Do you know what a waste basket is used for? (Referring to standard type used in classroom - Point to it.) Can you think of any other uses for a waste basket? (Push for more responses.)

How many triangles in this drawing? 

In this?   In this? 

How many squares in this? 

In this?  In this? 

Intermediate Level

Any questions listed above which seem appropriate but pushing for more answers

All or part of the vocabulary section of the Oregon Achievement Ranking Test. Read, define and use in a sentence:

ORANGE — BARRIER — PEDESTRIAN — SOLAR — AGELESS — EROSION — LAUNCH — DEED — CONFLICT — SECLUDE

What do these proverbs mean?

ROME WAS NOT BUILT IN A DAY

HALF A LOAF IS BETTER THAN NONE

Administer one or more of the Raven Progressive Matrices especially to culturally different students.

IV. Interview - Teacher

Discuss teacher's evaluations and reports of parent conferences.

Discuss student's in-class behavior and achievements.

Discuss student's response to student interview.

Discuss student's problem solving in class - levels of thinking.

V. Ranking for Testing

Students are placed in rank order based on responses for individual testing with either WISC—R or Stanford-Binet.

BEST COPY AVAILABLE

Developed by The Center for Theatre Techniques in Education for U.S. Model #300-79-0767 OE/G/T 1980

TALENT SEARCH & DEVELOPMENT STUDENT ASSESSMENT CHECKLIST

Name ______________________ Instructor ______________________

Month__________ Day________ Rating No.__________ School Year______________

Number of last ten sessions attended________

On the sixteen items below *circle the one number* which best indicates a position for this child. A rating of one (1) is the lowest possible and is associated with the negative descriptions on the left. A rating of eight (8) is the highest possible and is associated with the positive descriptions on the right. The other ratings (2 through 7) represent positions between; four (4) and five (5) are middle ratings halfway between no competence and extreme competence. The two end ratings (1 and 8) are intentionally extreme in order to help assure variation in ratings and to assure that when very exceptional performance does occur, it can be distinguished. Since descriptions like "highly", "often", and "exceptionally" can easily shift in meaning from one group context to another and from one time to another, the extreme positive rating of eight (8) should be associated with the qualities of behavior of gifted adults. Examples of such people (successful playwright, good teacher, etc.) are a part of each positive description. These examples provide a reference point which will remain more stable for a given rater over time and in different situations. It is not expected that a child will demonstrate the technical competence of such gifted adults. Rather, the items ask whether a child possesses the qualitative aspects of the behavior of such people (effective communication, supportiveness, etc.)

1) Made no effort to communicate ideas, directions and feelings to others	Communication 1 2 3 4 5 6 7 8	Highly effective in communicating ideas, directions and feelings to others (like a successful playwright)
2) Did not support and encourage others at all	Support of Others 1 2 3 4 5 6 7 8	Often encourages and supports many others in the accomplishment of group tasks (like a good teacher)
3) Extensively inflexible in leader-follower roles, needing to dominate others or needing to be dominated by others or vascillating between the two extremes	Leader-Follower Flexibility 1 2 3 4 5 6 7 8	Highly flexible in taking the lead in a course of interaction when it is appropriate and following the lead of others when that is appropriate (like a good actor)
4) Extensively restricted and cliquish in deciding who to interact with in group tasks	Interaction Flexibility 1 2 3 4 5 6 7 8	Exceptionally willing to relate to and interact with a great variety of other people (like a sensitive anthropologist)
5) Shows no awareness of what other people are feeling	Awareness of Feelings of Others 1 2 3 4 5 6 7 8	Is exceptionally aware of what other people are feeling (like a good counselor)
6) Is unattending to the behavior of others or often misses its significance	Perception of Others' Behavior 1 2 3 4 5 6 7 8	In a group context is exceptionally perceptive of the significance of the behavior of others (like a good actor)
7) Exhibits either very tense or very uncontrolled behavior so that the body is not used as a well directed resource	Body Command 1 2 3 4 5 6 7 8	Shows exceptionally free and agile body command (like a good gymnast)

8) Shows no interest in events of the world outside the school and neighborhood	Awareness of the Wider World 1 2 3 4 5 6 7 8	Shows exceptional interest in event the world outside the school and neig borhood (like a good investigative journalist)
9) Was constantly distracted by things peripheral to the activity at hand	Focusing 1 2 3 4 5 6 7 8	Shows exceptional ability to focus c the activities at hand (like a good tennis player)
10) Gave up on most tasks at an early stage	Completion of Activities 1 2 3 4 5 6 7 8	Is exceptional in the capacity to sta with a task until it is successfully completed (like a good novelist)
11) Has difficulty shifting focus from one task to another while participating in activities	Flexible in Focusing 1 2 3 4 5 6 7 8	Shows exceptional ability to shift fro one point of focus to another in a ta (like a successful administrator)
12) Shows delay or avoidance in entering most activities.	Immediacy of Response 1 2 3 4 5 6 7 8	Shows exceptional ability to initiate activities without delay or avoidance (like a good emergency room physic
13) Has no sense of the possibilities in the use of objects and space	Creative Use of Objects 1 2 3 4 5 6 7 8	Uses objects and space in exceptio creative ways (like an imaginative architect)
14) Stays within the most obvious confines of problems as given	Independent Approach to Problems 1 2 3 4 5 6 7 8	Shows constructive and exceptional independence in deciding how to proceed with a problem (like an imaginative poet)
15) Gives very common, expected, ordinary responses to activities	Unique Responses 1 2 3 4 5 6 7 8	Responds to most activities in very unique ways (like an artist)
16) Shows no tendency toward elaborating beyond simple, initial responses	Creative Elaboration 1 2 3 4 5 6 7 8	Generates exceptionally many detail response to activities (like a succes ful novelist)

SPECIAL COMMENTS______________________________

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Characteristics of Talented Pupils-Checklist*

(Can be used at any grade level)

School______________________________Teacher_____________________________

Directions: Place an X in the space beside each question which best describes the pupil.

Pupil's Name______________________Date_________________________

		YES	NO
1.	Displays a great deal of curiosity about many things.		
2.	Generates ideas or solutions to problems and questions.		
3.	Sees many aspects of one thing; fantasizes, imagines, manipulates ideas, elaborates.		
4.	Applies ideas		
5.	Is a high risk taker; is adventurous and speculative.		
6.	Displays a keen sense of humor.		
7.	Is sensitive to beauty; attends to aesthetic characteristics.		
8.	Predicts from present ideas.		
9.	Demonstrates unusual ability in painting/drawing.		
10.	Exhibits unusual ability in sculpturing or clay modeling.		
11.	Shows unusual ability in handicrafts.		
12.	Provides evidences of unusual ability in use of tools.		
13.	Shows unusual ability in instrumental music.		
14.	Demonstrates unusual ability in vocal music.		
15.	Indicates special interest in music appreciation.		
16.	Displays ability in role playing and drama.		
17.	Demonstrates ability to dramatize stories.		
18.	Shows ability in oral expression.		
19.	Demonstrates unusual ability in written expression: creating stories, plays, etc.		
20.	Shows evidence of independent reading for information and pleasure.		
21.	Demonstrates ability in dancing; toe, tap, creative.		
22.	Displays mechanical interest and unusual ability.		
23.	Shows unusual skill and coordination in his gross muscular movements such as ball playing, running.		

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*Taken and adapted from materials prepared for Dade County, Florida Public Schools, Mr. James Miley, Coordinator for the Gifted.

TORRANCE: CREATIVE POSITIVES OF DISADVANTAGED CHILDREN

Name______________________________ Date______________________________

School____________________________ Grade____________ Birthdate____________

Teacher___________________________

Directions: Check the statements which describe this child.

1. ability to express feelings and emotions
2. ability to improvise with commonplace materials
3. articulateness, skill in role playing and storytelling
4. enjoyment of and ability in visual art
5. enjoyment of and ability in creative movement, dance, dramatics, etc.
6. enjoyment of and ability in music, rhythm
7. expressive speech
8. fluency and flexibility in non-verbal media (figural, spatial, etc.)
9. enjoyment of and skills in small group activities, problem-solving
10. responsiveness to the concrete (objects, action, models, etc.)
11. responsiveness to the kinesthetic (movement)
12. expressiveness of gestures, body language, etc., and ability to "read" body language
13. enjoyment of and ability to use humor
14. richness of imagery in informal language
15. originality or unusualness of ideas in problem-solving
16. problem-centeredness, persistence in working on relevant problems
17. emotional responsiveness, mutual support
18. quickness of warm-up

WINDWARD OAHU DISTRICT

SEPARATE CRITERIA CHECKLIST FOR POTENTIALLY GIFTED

(to identify culturally different and disadvantaged)

Name____Date________

School____Grade________

Teacher or person completing form______________________________

Subject (Secondary)____

1. Evidence of Possible Giftedness

   a. Please indicate the degree to which the pupil exhibits the following characteristics. (Mark only those characteristics that have been observed.)

	Slight	Moderate	Marked
1. Takes initiative and shows independence of action	______	______	______
2. Shows leadership ability	______	______	______
3. Exhibits adaptive social reasoning and/or behavior	______	______	______
4. Is alert, observant, shows curiosity	______	______	______
5. Shows motivation and drive, enjoys challenge	______	______	______
6. Learns easily through experiences	______	______	______
7. Retains and uses ideas and information	______	______	______
8. Can transfer learning from one situation to another	______	______	______
9. Demonstrates high fluency in own language	______	______	______
10. Is highly motivated by games, sports, and concrete objects	______	______	______
11. Has varied interests	______	______	______
12. Shows imagination, originality, and creativity	______	______	______
13. Is flexible and resourceful in problem solving	______	______	______
14. Demonstrates abstract thinking ability	______	______	______

	Slight	Moderate	Marked
15. Has a sense of humor	______	______	______
16. Demonstrates persistence in tasks	______	______	______
17. Shows facility in learning English, if bilingual	______	______	______

b. Other evidence of giftedness (i.e., art, music, movement, drama, mechanical aptitudes, physical activities, etc.)

____

____

____

2. Evidence of disadvantage (check all factors that apply to student)

a. Environmental

( ) Limited experiential background ________________

( ) Irregular attendance ________________

( ) Transiency in elementary school years ________________

( ) A home situation affording little enrichment opportunity ________

( ) Home responsibilities interfering with learning activities ________

( ) Other (specify) ________________

b. Language

( ) Lack of proficiency in any language ________________

( ) Limited opportunity to acquire depth in English ________________

( ) Non-standard English constituting a barrier to learning ________

( ) Other (specify)

c. Cultural

( ) Limited experiences in dominant culture ________________

( ) Few experiences in any culture which stimulate intellectual growth

____

( ) Subculture standards in conflict with dominant culture standards

____

( ) Other (specify) ________________

d. Economic

( ) Residence in a depressed economic area ______________________

( ) Low family income at a subsistence level ______________________

( ) Necessary pupil employment interfering with learning opportunities ______________________

( ) Family unable to afford enrichment materials and experiences ____
____

( ) Other (specify) ______________________

3. Evidence of Underachievement

The pupil's achievement should be evaluated in relation to his potential. In this regard, a pupil who is achieving below average, at an average or above average level in comparison with the group may be underachieving in relation to his own potential.

a. Check factors below that give evidence of the pupil's underachievement:

( ) Teacher observation and evaluation of the student's daily work reveals a relative lack of quality and depth. ______________________

( ) Report card marks and cumulative record entries show a pattern of inconsistent achievement. ______________________

( ) Parents express opinions that the student is not achieving to his full potential. ______________________

( ) Student expresses a desire to achieve at a higher level in academic areas. ______________________

( ) Standardized achievement test data show a discrepancy between student's potential and his academic achievement. ______________________

( ) Other (specify) ______________________

b. Comments:

____
____
____
____
____
____

Sample Checklist for Observing Signs of Giftedness among the Culturally Different

____ 1. Sees things in unusual visual perspective.
____ 2. Combines things in unusual ways.
____ 3. Influences other children to do things he or she initiates.
____ 4. Plans activities for group and/or self.
____ 5. Organizes (structures) group to carry out activities (determines who does what).
____ 6. Sustains attention for a long time.
____ 7. Becomes deeply absorbed in an activity.
____ 8. Examines and observes things very thoroughly.
____ 9. Sits quietly and produces alternative solutions.
____ 10. Makes up and tells fantastic stories/songs/pictures.
____ 11. Draws pictures showing movement.
____ 12. Sees movement in pictures, inkblots, sculptures, and so forth.
____ 13. Does not wait for instructions; goes ahead and explores and tests alternatives.
____ 14. Follows instructions without being compulsively conforming (dependent on instructions).
____ 15. Possesses strong commitment/love for something; goes into depth about something.
____ 16. Makes things "run" (toys, equipment, machines, etc.).
____ 17. Questions accepted ways of doing things.
____ 18. Considers possibilities of the improbable.
____ 19. Makes extensive collections with sustained effort (insects, stamps, flowers, etc.).
____ 20. Picks up ideas of others and elaborates or puts them into action.
____ 21. Reads voraciously at every opportunity.
____ 22. Invents a variety of contrivances, gadgets.

This is based on E.P. Torrance, *Discovery and Nurturance of Giftedness in the Culturally Different*, Council for Exceptional Children, 1977

INTEREST INVENTORY--ELEMENTARY

Name of Student____ Grade______ Date______
Last First

School________________________________ Teacher________________________________

1. What are your favorite TV programs?________________________________
____

2. What are the best books you have read this year?____________________
____

3. What do you like to do best for fun or recreation?____________________
____

4. What are your hobbies?____
____

5. What do you like to do best with your family?________________________
____

6. Have you taken any trips?________ Where did you go?____________________
____

7. What would you like to be when you grow up?__________________________
____

8. Do you like school?________ What do you like best about school?________
____

9. If you dislike school, tell why. ____________________________________
____

10. Do you take any lessons outside of school? ________ If so, what do you study? ____

INTEREST INVENTORY--SECONDARY

Name____ Grade__________ Date________

School_________________________________Teacher___________________________________

So that we may look at ways to provide for as many special interest areas as possible, will you please take a few minutes to fill out the following items. Think beyond special programs now offered, such as orchestra, athletics, and others. Make your response as clear and complete as possible. Your help will assist us in planning added offerings, and your response will be kept confiential. Thank you.

1. Describe your hobbies and special interests. Omit the purely social, please.

2. Describe any special experiences you have had because of your interests.

3. Describe any special training you have had in your interest area.

4. What are your favorite subjects?

5. If you had a half day of free time during the week, how would you like to use it. Be specific.

6. If money were no problem, what career would you choose? Why?

7. Write a paragraph about yourself which you would consider interesting to other people.

8. If you had a half day of free time during the week, how would you like to use it?

SAMPLE

____
Date

Dear Parent:

This year our school will be initiating a program for students in grades _________, whose superior performance or porential indicates possible giftedness. This performance or potential may occur in any of the following areas: general intellectual ability, academic aptitude, creative or productive thinking, and leadership qualities.

Presently, we are conducting a preliminary identification of these students who may possess potential in the area of general intellectual ability. Such abilities do no not always manifest themselves in the regular school situation and therefore we offer you this opportunity to be involved in the identification process. Please study the descriptive statements below. If you feel that your child displays these characteristics, please fill in the information, using the enclosed form.

Learns easily
Original, imaginative, creative
Widely informed
Persistent, resourceful, self-directed
Inquisitive, skeptical

Informed in unusual areas
Outstanding vocabulary, verbally fluent
Flexible, open
Versatile, many interests
Shows unusual insights

Please understand that this is a preliminary identification process only, and that final selection may or may not include your child.

If you wish to nominate your child for consideration this year, please send us a letter.

Sincerely yours,

Principal

SAMPLE

____
date

Dear ______________________________,

Our school's Gifted and Talented Screening Committee has completed the evaluation of all the students in grades ____________ who were nominated for possible participation in our Gifted and Talented Program for this school year.

The selection of students was based on several criteria: academic potential, test scores, and nominations from parents, teachers and peers.

This letter is to inform you that your child has not been selected to participate in the program this year. If you have any questions, please feel free to call for an appointment with the principal.

Thank you for your interest in your child.

Sincerely yours,

Principal

SAMPLE

Date ______________________

Dear ______________________:

______________________School's Gifted and Talented Screening Committee has completed the evaluation of all the students nominated for the program.

The selection of students was based on multiple criteria, such as academic potential, test scores, and nominations from parents, teachers and peers.

We are happy to inform you that your child ______________________, was selected for the program for the coming school year.

Information will be sent to you later about a special meeting to be held with parents of selected children to explain our program to you.

Please sign the accompanying form and have your child return it to the homeroom teacher on Monday if you wish to have your child participate in this program.

Sincerely yours,

____
Principal

____
Teacher of Gifted/Talented Class

SAMPLE

______________________________School

PROGRAM FOR THE GIFTED/TALENTED

STUDENT/PARENT APPROVAL FORM

(Date)______________________

To Whom It May Concern:

It is our wish to enroll ______________________________ in the Gifted/ Talented class at ____School.

Should it become necessary to consider withdrawal from the program, a conference will be held by the school, parent and student prior to a decision.

____
Signature of Student

____
Signature of Parent

____
Date

SAMPLE

____

(Date) ________________

Dear ______________________________:

You are cordially invited to an orientation of our school's program for the Academically Gifted and Talented students. We would like to present an overview of our goals, the screening and identification process, and the focus of our program this year.

Date:
Time:
Place:

We hope to see you.

Sincerely,

Principal

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